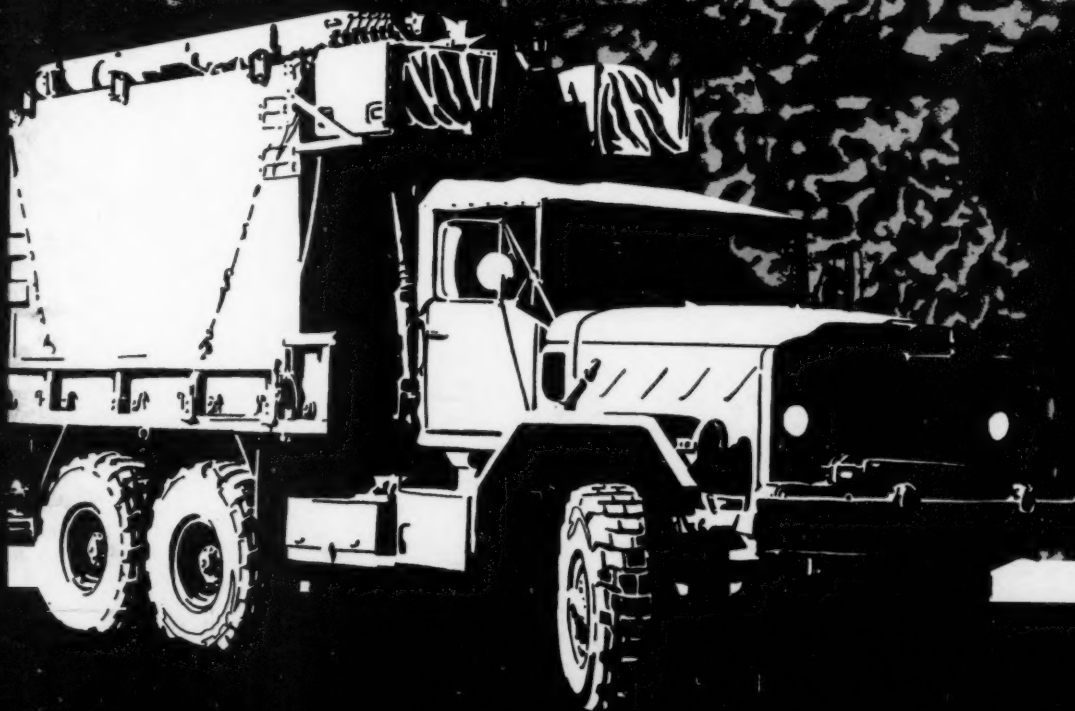


Military Intelligence

PROFESSIONAL BULLETIN

JULY-SEPTEMBER 1994
PB 34-94-3

OPERATION
DESERT CAPTURE II



ADMINISTRATIVE SECTION

Unofficial Intelligence Center Organizational Listing

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Writer of the Quarter

MIPB is pleased to announce the Writer of the Quarter: Captain Adam R. Hinsdale for his article "Pioneer: Nemesis in the Desert Sky." Thanks to all of our authors for their fine articles, book reviews, and letters to the editor. It is your contribution that makes MIPB the professional forum for Military Intelligence.

Thanks

MIPB thanks Sergeant Eliot A. Jardines and Lieutenant Colonel Robert R. Simmons of the 434th Military Intelligence Detachment (Strat) for their ongoing support.

We appreciate your help and encourage others to participate in the production of MIPB. You can do this by providing original photographs and illustrations, especially of new equipment being used for the first time. This will help to ensure we display the most current equipment in MIPB and in the new field manuals. Please identify the equipment shown and provide the photographer's name.

We are also interested in developing a series on these topics: intelligence simulations, joint operations, and information warfare. However, articles and photos on any MI topic are welcome.

Instructions for Sending Articles to MIPB

1. Select a topic relevant and of interest to the Military Intelligence community.
2. Write an outline to organize your work.
3. Follow proper rules of grammar. Consult DA Pam 600-67 or William A. McIntosh's Guide to Effective Writing, if necessary.
4. Maintain the active voice as much as possible. Say "The Army beat the Navy" instead of "The Navy was beaten by the Army." (See DA Pam 600-67, para. 3-2,b[1].)
5. Include:
 - a. Pictures and graphics (first-source, if possible).
 - b. A computer diskette (preferably a 3.5" diskette), with the article saved in any widely used format, such as ASCII, WordPerfect, or Multimate.
 - c. A short biography with the full name of all authors of the article. Where do they work now, and what job positions have they held in the past?
 - d. A cover letter stating your intent to publish the article, with home and work phone numbers.
 - e. A security evaluation of your article by your local security office to ensure your article is unclassified.
6. Remember that content is the most important item we look for. When in doubt, send in the article, and we can work out the details later.

Military Intelligence

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VANTAGE POINT

by Major General John F. Stewart, Jr.

This issue of MIPB is dedicated to Operation Desert Capture (ODC) II. This highly successful exercise was a crucial step on the way to developing the Army of the future—Force XXI. The articles in this issue describe what transpired at ODC II, what worked, and what didn't work. I believe ODC II was a major success, not only because it showed what we can do but more important, because it showed **where we should go**. Our Intelligence Corps motto is "Always Out Front," and I intend to keep that forward focus as we move through the "Information Age." ODC II and the concepts it proved will form the rock upon which we build the Army of the 21st century.

So, what did we learn for the future from ODC II? Alvin and Heidi Toffler, the authors of **Future Shock**, quote retired Colonel Alan Campen in their latest book, **War and Anti-War**, as he addresses the impact of the "Information Age"—the "Third Wave"—on the planners and fighters of Operation Desert Storm:

The computer-driven network that fed all-source intelligence to U.S. troops about to plunge across the Saudi Arabian border on February 21, 1991, did not even exist on that day, barely six months earlier, when Iraq invaded Kuwait. It was improvised...by a group of innovators who discovered how to bend the rules, end-run the bureaucracy, and exploit off-the-shelf hardware and software to get the job done, promptly.

I saw this process in action, and it was clear to me that available technology was way ahead of the "system." We couldn't just ignore the enormous developments in automation and communications that had occurred, but we still had not adapted them into our system of battlefield management. We knew we could do better. We could not settle for technology that had already been fielded, sometimes years before. New technology was available, yet we were restrained by a requirement to integrate all of this new technology into one cohesive, manageable system. To overcome this, we developed an ad hoc system, admittedly with systemic problems, but it was a better solution than accepting the status quo.

Colonel Campen's description is accurate. Fortunately, we are an Army of "Lessons Learned," and we took these lessons about technology and the system of using technology to heart. We began to develop and experiment with systems which would

take us into the future. The goal was to develop a force for the 21st century now, putting us ahead of our time instead of trying to catch up.

ODC II proved the intellectual and conceptual underpinnings of this new force to be more than "view-graph" deep. Our soldiers put the new systems to the test in a realistic "battle" on the ground.

ODC II was the largest MI operation since Desert Storm. Built around the 3d Brigade, 24th Infantry Division (Mech) rotation, it involved MI soldiers and civilians from the XVIII Airborne Corps, III Corps, 24th ID(M), 82d Airborne Division, 2d Armored Division, Intelligence and Security Command (INSCOM) Headquarters, and the U.S. Army Intelligence Center. It involved almost every fielded system as well as all available prototypes of our future flagship systems. Most important, a realistic scenario drove the entire intelligence and electronic warfare (IEW) effort.

ODC II tested the theory that the entire intelligence systems architecture could be driven, focused, and used by and for the commander, who was placed at the center of the intelligence effort. Intelligence could, therefore, be synchronized with tactical operations, pulled on the move, focused down on the tactical commander (according to his or her needs), and conducted in a split-based mode. This theory was validated, but even more enlightening were the insights that we gained about where we need to go in the future. That's what it's all about—fighting tomorrow's wars today, thus staying out in front of emerging technologies.

The first major insight gained from ODC II was that we must train the commander on the whole of the intelligence system if we expect him to drive the intelligence effort. We cannot wait until a conflict arises, then tell the infantry brigade commander, "OK, now direct the use of all available intelligence systems from tactical to national." Unless we have trained that commander on the entirety of the system, he will be unable to drive the system.

To help the commander, we will install a suite of All-Source Analysis System equipment, connected to the TROJAN system at the Combat Training Centers and connected vertically through Division, Corps, INSCOM, and national and joint levels. This will allow the entire IEW systems architecture to be engaged on every training rotation. We will begin to grow commanders who truly understand the system.



The second insight from ODC II that is ready for immediate investment by the Army is a "new way" of pulling intelligence. The commander must be able to reach out and get the information and intelligence needed for the fight, regardless of where it's stored or processed. A new system of access is being developed. This "new way" is based on a prototype program developed by the Intelligence Systems Board. It is a joint venture between the Office of the Secretary of Defense and national agencies to make national intelligence more accessible to commanders. It allows the tactical commander to clearly express the priority intelligence requirements through the entire IEW system.

As technological breakthroughs make what was once the cutting edge of technology obsolete, hardware and software changes will occur. To keep pace, we must change our way of developing the force. This is what ODC II and the Advanced Warfighting Experiments are all about. General Franks, Commander of the U.S. Army Training and Doctrine Command, said experiments like these are "...generating the power to drive the engine of change." If we develop future technologies as we develop the future force, remaining "friendly" to the inculcation of emerging technologies, we can minimize the effects

by Command Sergeant Major Robert T. Hall

Operation Desert Capture (ODC) II, conducted at the National Training Center (NTC), provided MI soldiers an unparalleled opportunity to train in a tactical scenario while applying their knowledge of the Army's newest intelligence systems. The enlisted force was comprised of more than 100 soldiers from the U.S. Army Intelligence Center and Fort Huachuca, the Intelligence and Security Command, XVIII Airborne Corps, 24th Infantry Division, and III Corps. These soldiers worked as a cohesive team to perform their specific missions. I was impressed by their hard-charging professionalism.

The purpose of ODC II was to conduct an advanced warfighting experiment and test the "New MI Concept." The MI soldiers trained hard to operate and support state-of-the-art intelligence systems and were therefore better able to integrate their intelligence product to provide the commander a clear and accurate picture of the battlefield. The soldiers filtered more information than was ever previously available. The quality of that information enhanced the commander's ability to quickly react to frequent changes in the tactical situation.

of obsolescence on our force.

During the American Civil War, the components of the emerging Industrial Age were the products of industry. The armies of both the Confederacy and the Union used railroads to move these components to the decisive point. But the development of the rail lines was uncoordinated, and often cargo had to be off-loaded from one rail line and reloaded onto another, because the tracks that the trains ran on were of different gauges. Lobbyists for the rail unions had fought legislation which would have established a common gauge. Although they secured some short-term financial gain for themselves, they cost the armies dearly in terms of time, effectiveness, and lethality. That is what we are preventing today.

Our Advanced Warfighting Experiments, of which ODC II was just one, are designed to develop "a common gauge track" that will transport the components of the "Information Age." We are building one unified system, focused on soldiers and the way they do business. The development is driven by commanders, and Intelligence is leading the process. With the efforts of soldiers like those who shined so brightly at ODC II, I have no doubt that we will be able to see the future and conquer it.

"ALWAYS OUT FRONT!"

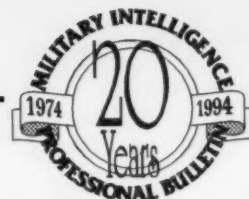
It is vital that commanders and other decision makers be trained and become comfortable with all sources of information in order to employ the correct system for a particular situation. At the NTC, I witnessed NCOs mentoring MI officers on the proper use and selection of information assets.

I cannot leave out the support personnel, because they, as always, performed their duties exceedingly well. There was a sense of urgency about everything they did, and they were key to the success of ODC II.

Training was first-rate and morale was high. The soldiers were genuinely excited about being a part of the first-ever digitized rotation to the NTC. National and senior Army leaders were on hand to see the MI Corps' systems and soldiers in action and their comments were very praiseworthy. They saw that "Always Out Front" is not just a motto, but a way of life for us.

I thank all of our great soldiers, both MI and support personnel, for doing an outstanding job in making ODC II a worthwhile operation. And I look forward to ODC III.

FROM THE EDITOR



Welcome to the July-September issue of **MIPB**. This issue should slake our readers' thirst for information about Operation Desert Capture II. The centerpiece articles all address this milestone event, but they do so from different angles. For example, Captain Hinsdale's article, "Pioneer—Nemesis in the Desert Sky," describes Unmanned Aerial Vehicle (UAV) operations from the perspective of the UAV company commander; while Major Guillory explains the role that the Analysis and Control Element (ACE) played during the battle in his article "24th ID(M) ACE in Operation Desert Capture II."

At first, it appears our authors are speaking about completely different events, because they are so focused on the specific part they played in the battle. But it becomes readily apparent that all the personnel, units, and equipment are involved in a highly complex, interrelated, and interdependent whole. If the UAV Ground Control Station is not functioning, the ACE cannot receive UAV video, and the commander loses that valuable source of intelligence. The communications architecture must be well-planned and sorted out at echelons above corps or potentially disastrous gaps in intelligence will occur, possibly resulting in bad decisions affecting the lives of every soldier on the ground. The commander must drive the intelligence effort as doctrine states, for the intelligence effort as a whole to be focused on answering his requirements. And if the soldiers are poorly trained on the tactics, systems, and equipment they must use to fight and win, then all we've managed to do is put American soldiers at risk on the battlefield. Let's not forget our greatest asset. We must train, develop, and take care of our soldiers. Without them, all of our expensive equipment amounts to a multimillion dollar waste of tax revenue.

This issue focuses on a very important theme; the next issue will devote less space to a theme and allow more variety. In our next issue, we hope to include an article from a career employee of the CIA, and articles about the linguist situation in the armed forces, intelligence and how it may be integrated into simulation exercises, and a case study of a highly successful IRA ambush against the British.

Some quick administrative notes:

1. **MIPB** welcomes controversy! Don't tell us what **should** work; tell us what **does** work.
2. Follow the guidelines printed on the inside front cover for your submissions. There's a much better chance your work will be published if you do.

Enjoy your reading!

Woodrow O. Carsky-Wilson
Contributing Editor

LETTERS

To the Editor:

I was very encouraged to read Captain Gregory J. Conti's article on automation (April-June 1994). It seems strange that we in MI who are "Always Out Front" are so far behind when it comes to automation and electronic communications. It is truly embarrassing that we who pioneered the "information superhighway" with Mil-Net, have so quickly forgotten or disregarded its importance.

As the Tofflers state in *War and Anti-War*, "We are speeding toward a totally different structure of power that will create not a world cut in two but sharply divided into three contrasting and competing civilizations: the first still symbolized by the hoe; the

second by the assembly line; and the third by the computer."

With this in mind, how can we justify our stubborn reluctance to learn and implement the benefits of automation? It is not simply a new gadget providing many hours of "gee whiz" amusement, but rather, it is an indispensable new tool to enhance the multiplicity of intelligence. As Captain Conti states: "Computers can be used to train your soldiers, to access huge bases of information, to communicate, and to disseminate."

Perhaps we are reluctant to implement such systems, because we feel such a strong need to protect and limit intelligence. Or perhaps we feel that if it's not classified, it's not worth reading.

The age of information warfare is upon us and only by greatly expanding our open-source intelligence (OSINT) capability will we be able to meet the challenges of the "Third Wave" revolution.

I recently concluded a graduate internship at the Department of State where I received classified reporting cables on a daily basis. Most of it was excellent; however, it usually came far too late to be of immediate use.

I found it much easier, using my computer and modem, to set up a folder on my CompuServe account which automatically scanned and filed more than 20 news wire services for specific key words I had inputted. I would then print out the wire reports and

(Continued on page 49)

OPERATION DESERT CAPTURE

by Lieutenant Colonel John R. Brooks,
Major Richard C. Mortensen,
and Captain Stephen C. Wong

In December 1992, the Intelligence Center and Fort Huachuca conducted Operation Desert Capture (ODC) I. This event was the first in a series of advanced warfighting experiments designed to implement the new Intelligence Branch Operational Concept (IBOC) and emerging doctrine.

ODC I was conducted in a laboratory environment at the National Training Center (NTC), Fort Irwin, CA. This exercise involved multiple real intelligence collection sensors and processors focused on the force-on-force battles that were being conducted in the maneuver training area, or "box." ODC I was conducted in a manner which precluded real-time intelligence products being provided to the tactical warfighters engaged in maneuver battles.

Nevertheless, ODC I demonstrated that state-of-the-art automated intelligence systems could support tactical warfighters and have a dramatic effect on the battlefield. It set the stage for the next big step of linking a robust digital intelligence system to tactical warfighters at brigade and battalion levels. The opportunity to do this came at NTC early in 1994.

ODC I was extraordinarily successful in achieving its goals. All of the lessons learned and insights gained from ODC I were brought together in the next major event—ODC II.

Information Warfare

ODC II was a Training and Doctrine Command (TRADOC)-approved Concept Evaluation Program initiative. As such, it was the largest deployment and engagement of MI personnel and equipment since Operations Desert Shield and Desert Storm.

ODC II supported Operation Desert Hammer VI—an advanced warfighting experiment of battlefield synchronization. Desert Hammer is the capstone event of the Army Force XXI Battle Command

activity to date. It is the most recent major event under the Army Chief of Staff Louisiana Maneuvers (LAM) initiative. ODC II was conducted during Rotation 94-07 at NTC from 21 March to 23 April 1994.

The rotation was the backdrop for developing information warfare capabilities and to further implement and enhance the five principles of the IBOC concept:

- ☐ The commander drives intelligence.
- ☐ Intelligence synchronization.
- ☐ Split-based operations.
- ☐ Tactical tailoring.
- ☐ Broadcast dissemination.

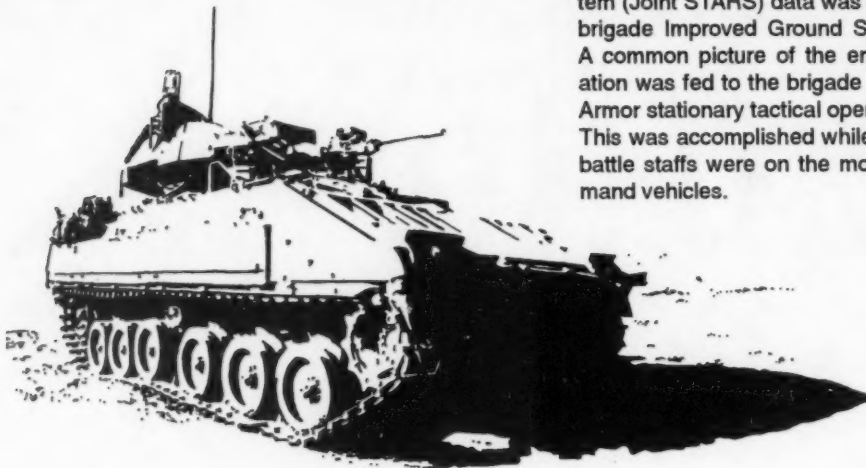
There were three main pieces that supported the ODC II experiment:

1. The first piece was the NTC training area or "maneuver box" within which the 3d and 24th Brigades, 24th Infantry Division (Mech) engaged in battalion-size force-on-force battles. These involved Task Force 1-70th Armor, Task Force 2-18th Mechanized Infantry, and Task Force 3-9th Infantry.

2. The second was the division piece which included a completely automated Analysis and Control Element (ACE) Minus (-). The Battle Command Battle Lab-Huachuca set up the ACE(-), and the G2, 24th ID(M) operated it. This was also a joint government-industry piece of the advanced warfighting experiment.

The XVIII Airborne Corps Deployable Intelligence Support Element (DISE) supported the ACE(-). Together, these elements translated the commander's intent into intelligence requirements and asset tasks. To do this they had to —

- ☐ Meld intelligence with operations.
- ☐ Provide timely tactical information to the commander on demand.
- ☐ Provide seamless intelligence support to the warfighter.
- ☐ Focus multiechelon Intelligence and Electronic Warfare (IEW) assets on the commander's mission.



3. The third piece was a laboratory in which the TRADOC battle labs and supporting activities conducted interoperability experiments and observed systems architecture performance. The lab work—

- ☐ Enabled evaluation of future intelligence support operations.
- ☐ Supported the development of tactics, techniques, technologies, and procedures to enhance our ability to provide intelligence support to the tactical warfighter.
- ☐ Supported data collection for development of a master data base.

ODC II focused on the 3d Brigade, 24th ID. It deployed the fully digitized Task Force 1-70th Armor as the experimental rotational training unit.

This unit employed M1A2 Abrams Main Battle Tanks, M-2 Bradley Fighting Vehicles, M-109 Paladin Gun Systems, and AH-64 Apache Attack Helicopters, all digitally linked through the Inter-Vehicular Information System (IVIS).

Real-Time Intelligence

The emphasis of ODC II was to evaluate the Army's ability to provide real-time intelligence support to the warfighters at brigade and battalion task force levels. Real-time data from the digitized armor task force tanks and fighting vehicles were shared horizontally via the IVIS at battalions, and connected at the task force via the brigade and below command and control system.

All-source intelligence data from the division was merged with tactical reports and provided down to the task force.

Live Joint Surveillance Target Attack Radar System (Joint STARS) data was directly available to the brigade Improved Ground Station Module (IGSM). A common picture of the enemy and friendly situation was fed to the brigade and Task Force 1-70th Armor stationary tactical operations centers (TOCs). This was accomplished while unit commanders and battle staffs were on the move in their battle command vehicles.

The friendly situation was integrated directly into the common picture from Enhance Position Location Reporting System data received on the All-Source Analysis System (ASAS).

A key objective of ODC-II was to enable the brigade-

level commander to pull intelligence on demand from higher echelons, while on the move. Viewing the concept from division and above, the 24th ID supported the forward deployed 3d Brigade from a totally digitized command post.

To bring together intelligence data feeds from EAC, the ACE(-) was equipped with—

- ☐ TROJAN SPIRIT II.
- ☐ Joint STARS Enhanced Ground Station Module (EGSM).
- ☐ ASAS Collateral Enclave (CE) and Warrior workstations.

This totally digitized command post was an experiment between industry and government based on an open architecture and the adoption of industry standards.

Several organizations were involved in the collection effort for ODC II, with each looking at different aspects of the experiment:

- ☐ The Army Tactical Command and Control Experimentation Site assessed doctrine, concepts, technology, and target time lines.
- ☐ The Army Test and Evaluation Command evaluated the advanced warfighter.
- ☐ The Army Electronic Proving Ground captured raw and processed data for future use.
- ☐ The Joint Interoperability Test Center tested the ASAS and the Joint Deployable Intelligence Support System (JDISS).

A Digital Battlefield

The ODC II intelligence and electronic warfare and communications support architecture was

based on the emerging vision of a digitized battlefield. The fighting brigade received top-down intelligence from multiple national and theater sensors. The brigade—

- ☐ Integrated bottom-up tactical intelligence from their own units to see over the next hill.
- ☐ Broadcasted data.
- ☐ Pulled from intelligence data bases.
- ☐ Automated intelligence analysis timely and accurately.

To optimize the NTC experience, the Intelligence Center teamed up with—

- ☐ Other TRADOC battle labs.
- ☐ Army Forces Command (FORSCOM).
- ☐ Army Intelligence and Security Command (INSCOM).
- ☐ Army Materiel Command (AMC).
- ☐ National agencies.
- ☐ Sister service activities.

They were able to demonstrate and develop the IBOC and doctrine as outlined in **FM 100-5, Operations**.

ODC II included joint operations with national, Air Force, Navy, and Army intelligence sensor and processor systems and communications networks. They were linked together to provide data to Army ASAS component systems. A common picture of the enemy situation was developed on ASAS equipment within the corps DISE. This picture was provided to the tactical warfighters at brigade and battalion levels before, during, and after the force-on-force training battles.

The DISE disseminated common enemy situation graphics to off-site Army, Air Force, and Navy elements by using the JDISS. Representatives from the Joint Interoperability Test Center were on hand to certify ASAS components for joint interoperability.

The intelligence, electronic, and information warfare laboratory was set up in the Fort Irwin garrison. In addition to providing information to warfighters during the battles, this lab conducted technology experiments and automation interoperability experiments. These included development of the Deep Operations Coordination Center (DOCC) concept and linkage with a concurrent and independent Navy operational test launch of a Tomahawk Land Attack Cruise Missile, into the China Lake, CA, Naval Air Weapons Center. Live data for the common enemy situation graphic and battle damage assessment were passed to the lab via a tail-fin video camera mounted on the Tomahawk missile.

Systems that supported ODC II include—

- ☐ National systems and Army ASAS-CE, Warrior, and Warlord systems.

- ☐ TROJAN SPIRIT satellite communications systems, Joint STARS with various Ground Station Modules (GSMs) to receive Moving Target Indicator data, Ground Control Station for Pioneer Unmanned Aerial Vehicle (UAV) data, Army GUARDRAIL aircraft supporting the Tactical Commander's Terminal, and Army Mohawk aircraft with Side-Looking Airborne Radar (SLAR) capability.
- ☐ Air Force RIVET JOINT aircraft using the Tactical Information Broadcast System (TIBS) and U-2 aircraft. The U-2 employed both the Advanced Synthetic Aperture Radar System and the Senior Year Electro-Optical Reconnaissance System with displays on the Demand-Driven Direct Digital Dissemination System (5D) workstation.
- ☐ Navy Orion aircraft with the Tactical Airborne Digital Camera System, Infrared Detection System, and Inverted Synthetic Aperture Radar Systems displaying data on a ground-based workstation.

Conclusion

ODC II was a complete success. It moved the IBOC forward by two years. The success was due to the great efforts by the Intelligence Center and INSCOM.

ODC II enhanced the MI Corp's ability to support the tactical warfighter with timely, tailored intelligence on the digitized battlefield of the 21st century. It set the stage for future Advanced Warfighting Experiments to enable the Army to fight and win as part of a joint force on a digitized battlefield.

Three specific actions are needed to continue the ODC II initiative:

- ☐ Establish a permanent ODC-like MI system at the NTC and at the Joint Readiness Training Center, Fort Polk, LA.
- ☐ Develop a pull-down capability for intelligence, thereby linking national and theater intelligence systems to brigade and battalion warfighters.
- ☐ Move to reconfigurable workstations in the battle command vehicle and other battle command nodes.

These initiatives will continue the Intelligence Center's drive to prepare the force to win the Information War.

LTC Brooks is Deputy Director, Battle Command Battle Lab-Huachuca. MAJ Mortensen is Exercise Director, ODC II, Battle Command Battle Lab-Huachuca. CPT Wong is Chief, Operations, Battle Command Battle Lab-Huachuca.

A ROLE OF THE DISE



by Sergeant First Class Steven Gamble

During Operation Desert Capture (ODC) II, the XVIII Airborne Corps G2 Section was asked to replicate the G2 portion of a corps assault command post with an attached Deployable Intelligence Support Element (DISE). The corps DISE would support the 24th Infantry Division's National Training Center (NTC) rotation.

The corps DISE was able to pull data from virtually all national level agencies, combine them into a product the 24th ID commander could use, and pass them via the All-Source Analysis System (ASAS). This was done with the support of—

- ☐ The MI Battalion (Low Intensity), Orlando, FL.
- ☐ The 513th MI Brigade, Fort Monmouth, NJ.
- ☐ The 902d MI Group, Fort Meade, MD.
- ☐ Other elements of the U.S. Army Intelligence and Security Command (INSCOM).

The DISE concept calls for deploying an element sufficient enough to support the mission, while keeping the rest of the analysis elements at home station and/or at an intermediate staging base. For the DISE, connectivity is the key to success. Connections range from tactical radio (for short distances) to TROJAN SPIRIT and tactical satellite links.

The MI Battalion (LI) conducted GUARDRAIL collection missions, flying out of Indian Springs, NV. It linked the raw data to Orlando for processing, then passed it to the corps DISE via radio—all within 15 to 45 minutes, depending on the data's priority.

The signal was sent from a GUARDRAIL plane to a tactical relay facility, again via satellite, where it was processed. The signal was then returned through the tactical relay facility via satellite and downlinked to the tactical commander's terminal located in the corps DISE. Alternate routing included the DISE receiving directly from Orlando via tactical satellite or secure modem on the telephone.

The 513th MI Brigade deployed equipment to link into various national systems through the Fort Monmouth local area network via the TROJAN SPIRIT. The 513th also deployed personnel from the Corps MI Support Element (CMISE). (See Captain Audrey Clark's article, "Corps Military Intelligence Support Element," in the January-March 1994 issue of *MIPB*.) Using this link, we were able to forward requests for information and retrieve information and data from various national agencies' data bases, sometimes within minutes.

The 902d MI Group provided a multidiscipline counterintelligence analysis team. Their job was to develop and disseminate estimates on the vulnerabilities to the overall operation from various intelligence threats, including overhead reconnaissance and possible human sources such as foreign visitors.

Using the Theater Rapid Response Intelligence Processing (TRRIP) System, the team accessed information in the Defense Intelligence Threat System through its headquarters at Fort Meade over secure telephone data links.

Other elements of INSCOM deployed a team to replicate human intelligence collection in the area of operations. The team simulated the use of human sources to collect information on enemy forces and equipment. They also sent requests for information to their higher headquarters using secure data links through the telephone. This allowed them to include actual analysis which had previously been done on foreign equipment.

A TROJAN SPIRIT Team from III Corps at Fort Hood, TX, provided additional support. It supplied all of our sensitive compartmented information communications links to home bases and other outside agencies.

A team from the U.S. Navy downlinked aerial photos from the P-3 Orion platform. Through this team, we directed the Orion to target specific areas. We received the photos before the plane left its station, allowing us to redirect it as necessary. The photos were then imported into the ASAS and sent to division and brigade commanders. After all, isn't a picture worth a thousand words?

Throughout the exercise, we were able to leverage echelons above corps, theater, and national assets to support brigade and division commanders on the ground. This would not have been possible without the intelligence analysis cell. This cell fed data to the ASAS and provided preparatory analysis to keep division and brigade analysts apprised of the situation on the ground.

This exercise provided intelligence personnel a rare look at the type of intelligence information that commanders on the ground and in the trenches require in order to fight an effective battle.

SFC Gamble is NCOIC of XVIII Abn Corps G2 CI. He was the operations NCO for the corps DISE at Fort Irwin during ODC II. Previous assignments include operations NCO and NCOIC of a CI detachment and brigade operations NCO at 525th MI Brigade.

24TH ID(M) ACE

IN OPERATION DESERT CAPTURE II

by Major Russell A. Guillory

Enemy vehicles are turning north and filing through a narrow pass called the Bowling Alley. An intercept report from GUARDRAIL the previous night indicated the enemy might use this route—a route considered to be the least likely enemy course of action (COA).

The imagery analyst inside the Analysis and Control Element (ACE) observes this activity in real-time video on his All-Source Analysis System (ASAS) screen. The video, received from an Unmanned Aerial Vehicle (UAV), is being sent through the Ground Control Station (GCS) to the ASAS screen.

By intercom, the analyst directs the UAV pilot at the GCS to follow the vehicle column. While continuing to observe the video, he types a spot report on his ASAS and sends it to the ASAS at the supported brigade over the Mobile Subscriber Equipment (MSE) packet switch network. His assistant uses his ASAS terminal to freeze a video frame of the enemy battalion in the pass. He enhances the image, annotates it, and forwards it to the brigade over MSE. The Field Artillery Intelligence Officer (FAIO) sends a target report to the Brigade Fire Support Element: "One enemy battalion in Engagement Area (EA) Bowl."

As the situation develops, Joint Surveillance Target Attack Radar System (Joint STARS) moving target indicators (MTI) are displayed on the ASAS screen. They show the enemy column turning east out of the Bowling Alley into the Valley of Death, then breaking into two columns.

The ACE analyst directs the UAV, cued by the

MTI, to the two columns and conducts a vehicle count. Each column has 40 or more vehicles. Two battalions have moved through the Bowling Alley and are now in the Valley of Death. The UAV traces these lead battalions back to the second echelon battalion, which the ACE analyst identifies turning north into the Bowling Alley. The FAIO sends a second report: "Two battalions in EA Valley and one battalion in EA Bowl."

The entire enemy regiment is now committed to the Valley of Death. The all-source analyst creates a graphic of the situation showing the current location of the three battalions with MTI data and a map background. She sends this picture of the battlefield to the brigade over MSE.

With the enemy situation now clear, the ACE chief uses his Digital Nonsecure Voice Telephone (DNVT) to discuss the situation with the brigade S2. The S2 reports: "Based on dust clouds, our scouts are reporting one battalion in the valley and one battalion south of the valley. Is that what you're seeing?"

"Negative," the ACE chief replies. "We have the two lead battalions moving east in the valley and the second echelon battalion moving north in the Bowling Alley. The lead battalions are at the 40-grid line."

"What is the time on that report?" the S2 asks.

"Right now!" the ACE chief replies. "The two lead battalions are at the 40-grid right now!"

Spot reports, target reports, and graphic reports continue as the ACE follows the enemy out of the Valley of Death, north of the Whale Gap, and into the Red Pass. At each point, the brigade commander has the intelligence he needs to request close air support and attack helicopters and to reposition his reserve company to meet the enemy concentration in the Red Pass.

Is this a vision of intelligence support on some future battlefield? Not at all. This is an actual account of one of the battles during National Training Center (NTC) Rotation 94-07—the Advanced Warfighting Experiment and Operation Desert Capture II.

Objectives

The 24th ID(M) ACE deployed 17 soldiers to Fort Irwin from 27 March to 24 April for ODC II. Ten soldiers from 111th MI Brigade at Fort Huachuca supported the 24th ID(M) soldiers. This team comprised

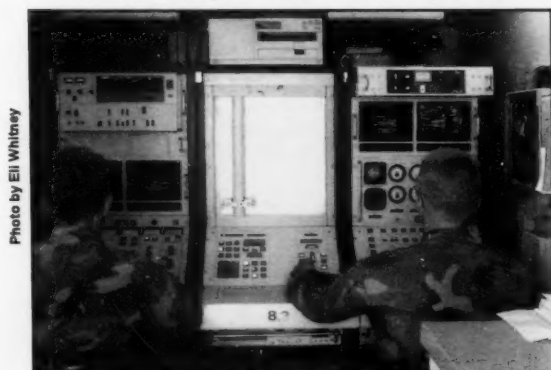


Photo by Eli Whitney

the ACE (-).

Our mission was to provide intelligence support to a brigade in a force projection role. Our objectives were to—

- ☐ Automate intelligence from both bottom-up and top-down.
- ☐ Provide a common graphic of the enemy situation.
- ☐ Focus intelligence sensors on the tactical level.
- ☐ Enhance intelligence support to targeting.

ACE Intelligence Systems

The 24th ID(M) ACE(-) consisted of—

- ☐ An Enhanced Ground Station Module (EGSM) for broadcast intelligence.
- ☐ Six ASAS terminals for analysis and fusion.
- ☐ A TROJAN SPIRIT for communications (see Figure 1):

The EGSM consisted of two terminals inside a HMMWV-mounted shelter. The terminals had the capability to receive MTI data, UAV video, and broadcast intelligence from a Commanders Tactical Terminal-Hybrid Radio (CTT-HR). The EGSM had a Remote Display Station (RDS) with all the system capabilities. Four imagery analysts (two per shift) operated the EGSM.

Five ASAS-Warrior (ASAS-W) workstations and one ASAS-Collateral Enclave (ASAS-CE) workstation provided the ACE's analysis and fusion capabilities. These terminals were placed inside two standard integrated command post shelters

(SICPS).

Each Warrior terminal was operated by one soldier per shift with the MOS dependent on the function the Warrior performed. There are five ASAS-W functions:

- ☐ Imagery intelligence (IMINT).
- ☐ Targeting/electronic intelligence (ELINT).
- ☐ Communications intelligence (COMINT).
- ☐ Collection management (CM).
- ☐ All-source intelligence.

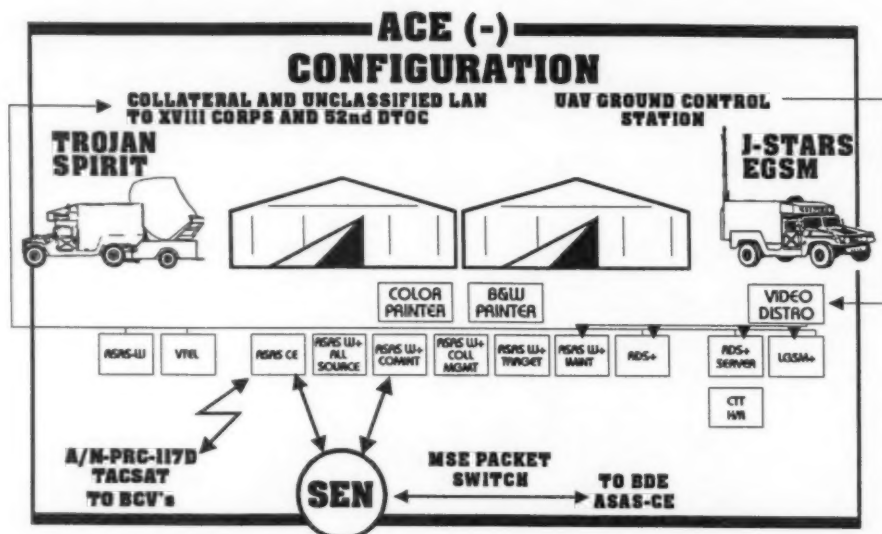
We used the ASAS-CE for dissemination of products to the ASAS-CEs at brigade and task force levels. Two signals intelligence (SIGINT) analysts (one per shift) operated the ASAS-CE.

The HMMWV-mounted TROJAN SPIRIT 2.0 equipped with an ASAS-W and a Video Teleconference Terminal provided wide bandwidth (512 kbs) satellite communications. Four SIGINT analysts (two per shift) operated the TROJAN SPIRIT. Tactical communications were provided by—

- ☐ A PRC 117 Tactical Satellite (TACSAT) Radio.
- ☐ A Tactical Communications Interface Module (TCIM).
- ☐ Two MSE DNVTS.
- ☐ A small extension node (SEN) with packet switch capability.

Intelligence Collectors

The ACE received intelligence from both division level and echelons above division (EAD) collectors. Most EAD assets downlinked to the XVIII Airborne



Corps Deployable Intelligence Support Element (DISE). These assets included U-2, GUARDRAIL, P-3 Orion, and other national systems. The ACE received intelligence from these systems by either a fiber-optic cable linked to the corps DISE or by TROJAN SPIRIT.

The ACE received broadcast intelligence from RIVET JOINT and other ELINT systems through the CTT-HR in the EGSM. The ACE received UAV video directly from the UAV GCS, located less than 50 meters from the ACE. The UAV video was sent to the EGSM and the IMINT ASAS-W terminal. (The terminal is equipped with a video card.) The ACE also received Joint STARS and Mohawk Side-Looking Airborne Radar MTI from the EGSM.

The COMINT ASAS-W in the ACE was linked through MSE packet switch to a lap-top ASAS-W at C Company, 124th MI Battalion (the MI company team in direct support to the maneuver brigade).

The ACE also received intelligence on friendly units from an Enhanced Position Location Reporting System (EPLRS) receiver. The EPLRS data fed into an ASAS-W friendly data base which the operator could plot to view current locations of friendly units.



Photo by Eli Whitney

Lessons Learned

Overall, the exercise was a tremendous success and our objectives were met. Our most critical objective was to focus theater and national intelligence sensors in support of a tactical "short sword" fighter. We clearly demonstrated that an organization manned and equipped as the 24th ID(M) ACE(-) can support a brigade in a tactical operation. The following is a discussion of lessons learned.

Automate from top-down. The automation of the top-down feed from sensors worked well. The weak link in the system is the ASAS-CE. Partly due to security protocols, most data bases are not able to transfer from the ASAS-W to the ASAS-CE. To automate top-down intelligence, reliable communications are critical. MSE outages due to bad

weather or movement of SENs significantly disrupted the flow of intelligence. There is a tremendous need for a better on-the-move digital communications capability.

Automate from bottom-up. The intelligence feed from the MI company team provided critical intelligence. In fact, ground-based SIGINT from the MI company team was more reliable and productive than EAD aerial assets. The communications link, however, from the MI company to the ACE was tenuous. An MSE packet switch was used for portions of the exercise, but the MI company team was not always able to locate with a SEN. In the absence of a SEN, we used an MSE voice with the MI company's mobile subscriber radiotelephone. As mentioned above, better digital communications are needed.

The most successful automation of bottom-up intelligence was the EPLRS feed on friendly units. A plot of this data proved essential for friendly situation awareness. The digital bottom-up feed of intelligence from tactical reporting did not work as well. Only limited spot reports and very few intelligence overlays were sent up on the ASAS-CE. This was due, in part, to the brigade being only partially automated.

Working in both automated and manual environments requires a staff to do many things twice—once on an automated system and once manually. In most cases, the primary effort was manual. Spot reports were usually sent by voice, and overlays were produced and copied manually. The operational lesson learned is that a mixed automated/manual environment requires more effort than either the completely manual or completely automated environment.

The intelligence graphic. The ACE provided a common graphic of the situation down to the brigade, and in some cases, task force level. The graphic was a fused product containing enemy disposition, MTI, and, where appropriate, friendly dispositions from EPLRS. The ACE tried various types of graphics:

- ☐ Plots of the order of battle data base.
- ☐ Simple overlays.
- ☐ Overlays with a map background.
- ☐ Overlays with a terrain relief background.

The most effective product was an overlay type graphic with a map background. For enemy offensive operations, these overlays, backed up with MTI and UAV reports, could be generated very quickly. For enemy defensive operations, these overlays were primarily based on imagery reports of locations of vehicle fighting positions and obstacles.

Because of the incompatibility between the

ASAS-W and the ASAS-CE, the ACE intelligence graphic was not interactive at the brigade and battalion levels. The graphic sent to the ASAS-CE was a "screen dump" of the ASAS-W graphic. The data supporting an icon in the graphic was accessible to ACE analysts on the ASAS-W but not to brigade and battalion analysts on the ASAS-CE. Brigade and battalion could view this screen dump on the ASAS-CE but not manipulate the graphic. If the brigade and battalion had ASAS-W, the graphics would have been interactive.

Intelligence at the tactical level. The ACE, the XVIII Airborne Corps DISE, and the Intelligence Center Synchronization Cell successfully focused intelligence sensors at the tactical level. Focusing these assets proved to be a challenge since the brigade planning cycle was, in many cases, inside the tasking lead time required for various sensors. This highlighted the need for either division level planning involving the ACE or, for a force projection scenario, ACE involvement in brigade planning. This also affirms the importance of identifying, early in the planning cycle, clear and specific priority intelligence requirements (PIR).

Support to targeting. The ACE enhanced intelligence support to targeting. UAV and U-2 imagery was particularly effective in identifying targets. The ACE FAIO identified targets quickly as intelligence was collected. Targets were passed by MSE voice to the division and brigade FSE. The ACE also developed a target report which was sent digitally to the brigade through the ASAS-CE. This targeting support could have been much more effective if the architecture had supported digital communications between ASAS and TACFIRE/Intermediate Fire Support Automation System (IFSAS).

Leader training. The systems train-up for ODC II consisted almost entirely of operator training on system functionality. Operations during the exercise clearly demonstrated that leader training on systems is as important as operator training. This requirement is difficult to accomplish because of a lack of well-developed tactics, techniques, and procedures for new systems and software. Before future exercises, we should conduct leader training and develop detailed procedures for system employment.

Imagery Intelligence. IMINT during ODC II was the most productive and important of all the "INTs." The UAV procedures developed in the ACE worked very well. Some of the procedures were to—

- ☐ Conduct a mission brief with UAV operators which provided a reconnaissance route and named areas of interest approximately three hours before a mission.
- ☐ Control the UAV by an intercom from the ACE

imagery analyst to the pilot in the GCS.

- ☐ Prepare and disseminate UAV spot reports during the mission.
- ☐ Develop and disseminate targets during the mission.
- ☐ Freeze-frame select UAV images and annotate and disseminate them.

Although IMINT was critical, the dissemination of an image was time-consuming and less important than the actual intelligence contained in the image. UAV freeze-frame images or U-2 images take considerable time to disseminate over MSE and they quickly fill up the ASAS-CE's memory.

In many cases, the intelligence value of these images could have been summarized in one spot report. **The lesson learned is that the intelligence derived from an image has priority for dissemination.** The ACE must then carefully choose the most critical images to push down. The remaining images should be clearly identified and made available for units to pull.

Single-source support to all-source. The process of single-source analysts providing single-source graphic overlays and reports to the all-source analyst is a sound one. However, to be effective, this process requires training and supervision. Unless analysts are well trained, the process can take too long or provide a poor product to the all-source analyst. The supervisor and analyst must watch for time-sensitive intelligence and targetable information for immediate dissemination by the single-source analyst.

Priority intelligence requirements (PIR). In the ACE, brigade PIR were handled similar to requests for intelligence information. The PIR were logged and posted and every analyst was conscious of a suspense for answering the PIR. This system worked well and it highlighted the importance of developing specific PIR with a time requirement. For most operations, the ACE was able to answer the supported commander's PIR.

Conclusion

The 24th ID(M) ACE in ODC II not only provided a vision of the future but also demonstrated that the future is here. Many of the systems, communications, and procedures are already in place. We are able to focus operational and strategic intelligence collectors on a brigade fight and provide the intelligence product to the tactical commander.

MAJ Guillory is the 24th ID(M) ACE Chief. Previous assignments include S2 of a light infantry battalion, a divisional armored cavalry squadron, and an armored brigade. He also has commanded two detachments.

PIONEER: NEMESIS IN THE DESERT SKY



by Captain Adam R. Hinsdale

As the predawn light starts to break over the Tiefert Mountains, the launch crew heads back to some much deserved rest before recovering the recently launched Pioneer Unmanned Aerial Vehicle (UAV). With a wing span of just over 17 feet, the Pioneer disappears as the internal pilot turns off the navigation lights, rendering the aircraft nearly invisible to the human eye.

Simultaneously, the mission flight crew runs final checks before taking over control of the air vehicle. For this predawn flight over enemy territory, their mission is to locate the forward deployed elements of the enemy force.

As the payload operator makes a final check on the coordinates, he notices movement on the video screen. As he zooms in on the heat signature, an enemy tank is recognizable. By carefully scanning the area, the payload operator identifies 17 armored vehicles in defensive positions. Through horizontal connectivity, the 24th Infantry Division (Mech) Analysis and Control Element (ACE) Minus (-) identifies and reports these forces to their warfighter.

The Pioneer UAV, a near-real-time video imagery intelligence asset, logged over 52 flight hours in support of the 24th ID(M) during Operation Desert Capture (ODC) II at the National Training Center (NTC) at Fort Irwin, CA, in April.

Mission

The Pioneer UAV Company is stationed at Fort Huachuca as C Company, 304th MI Battalion. As the Army's only deployable contingency asset of its kind, C Company (UAV) has two missions:

- ☐ To be prepared to deploy and conduct UAV operations in support of worldwide contingency missions.
- ☐ To develop UAV tactics, techniques, and procedures for employment within the Army.

C Company flies in general support of a division or in direct support of a brigade. C Company (UAV) supports—

- ☐ Combat Training Center (CTC) warfighter rotations.
- ☐ Automated warfighting demonstrations.
- ☐ Experimentation with the Battle Command Battle Lab—Information Warfare, 111th MI Brigade integrated field training exercises.
- ☐ The testing of developmental systems.

Photo by Eli Whitney



- ☐ Special requirements tasked by the Commanding General, U.S. Army Intelligence Center and Fort Huachuca.

The Pioneer UAV supports the Combined Arms warfighter with unmanned aerial vehicle missions. Primarily, these are—

- ☐ Targeting and target acquisition to pinpoint logistical points and assembly areas.
- ☐ Point and route reconnaissance.
- ☐ Real-time battle damage assessment.
- ☐ Indirect fire adjustment.

The Pioneer UAV enhances the intelligence preparation of the battlefield (IPB) and situation development by looking deep and providing accurate near-real-time intelligence to the commander. This information provides an unparalleled picture of the area of operations to the battle staff to help ensure a rapid and decisive victory over the enemy.

Organization

C Company originally deployed the Pioneer system as a platoon-sized element in support of Operation Desert Storm. Upon returning to Fort Huachuca, the company has deployed in support of numerous CTC rotations, a Team Spirit Exercise, a live fire exercise, and a counter-UAV operation at White Sands Missile Range, NM.

The company consists of—

- ☐ Five aircraft.
- ☐ Two control stations.
- ☐ Additional support equipment.
- ☐ Prime movers.

C Company has spent nearly 200 days deployed away from Fort Huachuca during the last fiscal year, and is scheduled to be gone the same amount of time this fiscal year.

Operations

During ODC II, C Company flew over 20 missions, providing much needed intelligence to the warfighter about the disposition and movement of enemy elements. During this operation, the Pioneer UAV maintained contact with the entire enemy formation. C Company tactical guidance directed the payload operator to constantly view the entire formation to ensure no deception occurred. While viewing the formation, the senior payload operator, Specialist William White, concentrated on named areas of interest and key decision points.

By focusing on the products generated during the IPB process, we located, tracked, and reported the entire enemy formation, ensuring the BLUEFOR commander had an accurate, timely picture of the battlefield. "We provided a lot of useful imagery to the supported unit," said Specialist White. "One mis-



Photo by Eli Whitney

sion, we found the enemy's forward security element, forward battalion in march formation, two rear battalions in parallel march formation, and the rear guard. I think we really proved, again, what the system is capable of."

Sergeant Todd Smith, one of the unit's two internal pilots, said, "I've been impressed at the way the integration has worked. The ACE(-) can request we remain over a target or move on to another target. Before, we had to use our own discretion when to move."

In addition to establishing real-time video horizontal interoperability with the ACE(-), we added an intercom system between the Ground Control Station (GCS) payload operator and ACE(-) imagery analyst. This capability provided direct-voice communications between the ACE(-) and GCS to ensure the Pioneer answered the commander's priority intelligence requirements (PIR).

To further assist the ACE(-), we provided 1/2-inch VCR tapes and still laser prints of the mission to facilitate further analysis and the construction of a historical file. According to an unnamed enemy source, "If the Pioneer had been able to provide continuous coverage of the battle area, we would have been in serious trouble."

There are five aspects of operations I wish to discuss here:

Payload. The air vehicle is capable of carrying one of two types of payloads:

- ☐ The MOKED 200 Day Imagery Camera. This camera is capable of target acquisition at a distance of 18 kilometers and target identification at 5 kilometers.
- ☐ The MOKED 400 Forward Looking Infrared Camera. This camera is capable of target acquisition at a distance of 15 kilometers and identification at 3 kilometers. It is also capable of day and night imagery.

Not only is the MOKED 400 best suited for night operations but the infrared camera also outperforms the MOKED 200 in day desert operations due to its ability to acquire heat-generating sources. The MOKED 400 can "see" through shadows and camouflage and can discern actual vehicles from threat mock-ups. To further complicate the enemy's mission, the MOKED 400 can see through thermal blankets covering stationary threat vehicles. The MOKED 400 gives the commander exceptional intelligence, regardless of enemy deception.

While the Pioneer air vehicle is 14 feet long and is composed of a kevlar composite material, it has an extremely small radar cross-section. The 27-horse-power, two-stroke engine produces a virtually undetectable heat signature. When the Pioneer flies "blacked out," with no transponder or position lights, the air vehicle is undetectable. A Pioneer UAV operating 3,000 feet above ground level is invisible to the human eye. However, due to the lack of a muffler on the air vehicle engine, a listening post may hear it unless it flies above 7,000 feet.

According to the NTC enemy commander, Colonel Patrick Lamar, the Pioneer system was our "primary nemesis...it orbits above us like a dot in the sky. It is very, very effective."

Interoperability. In addition to the unit's ODC II mission of providing near-real-time imagery intelligence (IMINT) to the battlefield commander, we also tested our horizontal interoperability with other MI assets during the digitization of the battlefield.

ODC II was a solid test for the Army's digitization of the battlefield. The Battle Command Battle Lab—Information Warfare linked several systems together to provide up-to-the-minute information to the battlefield commander. We linked our Pioneer GCS—the primary controlling and receiving station—to the 24th ID(M) ACE(-). Within the ACE(-), a SUNSPARC Workstation received our live video feed. Once the UAV found perishable intelligence, the ACE(-) IMINT analyst would send a textual Size, Activity, Location, Unit, Time, Equipment (SALUTE) report from his All-source Analysis System (ASAS) workstation to the tactical command via Mobile Subscriber Equipment for immediate processing.

Whenever there was a break in activity, the ACE(-) IMINT analyst would freeze-frame the UAV image and send this image via ASAS to the tactical command. This dynamic, seamless intelligence structure allows the commander to simultaneously push and pull perishable intelligence.

We accomplished this interconnectivity link with the ACE(-) with no modification to the system's base equipment. We provided immediate imagery to the supported unit, greatly increasing the tactical unit's ability to fight the enemy. Despite extreme environmental conditions, including several sandstorms with winds in excess of 40 miles per hour, we maintained a better than 99 percent sortie availability rate and a better than 98 percent sortie success rate.

Airspace. Throughout the exercise we were given no more than 24 hours to plan our next mission, prepare the aircraft, launch, and be over the target area to provide vital imagery to the battlefield commander. We executed over 60 percent of our missions with a lead time of 6 to 12 hours.

In addition to company-level planning, airspace coordination is vital to the success of Pioneer missions. Airspace has to be requested 24 hours before mission execution. This fact stresses the importance of executing a thorough Intelligence and Electronic Warfare Synchronization Matrix and Collection Plan.

The Pioneer, which carries no more than 40 liters of fuel, is able to maintain a total of only 3.5 hours flight time. "We can have another air vehicle in the air within 45 minutes of landing the first one," said Staff Sergeant George Marshall, maintenance platoon sergeant. "For this exercise we were only providing one flight in a 12-hour period. However, dur-

ing surge operations we provided two flights in a 12-hour period."

C Company has a rapid air vehicle turnaround time if the company conducts single-site operations, which consolidates the entire company at one location. Air vehicle turnaround time increases if executing split-site operations, which separates the GCS and the Portable Control Station (PCS)—the two controlling and receiving stations.

ODC II was a huge success for integrating UAVs into Army Airspace Command and Control. ODC II was the first time Pioneer UAV simultaneously shared airspace with Army, Navy, and Air Force aircraft, as well as Army Field Artillery. Pioneer flew in a blanket airspace from 8,000 to 10,000 feet mean sea level. We experienced absolutely no airspace conflicts. This blanket airspace also gave us the capability to move freely around the battlefield and to react to rapid tasking changes.

Cueing. One of the important lessons during the exercise was the requirement of cueing the UAV from other systems. Throughout the exercise the ACE(-) had several other airborne platforms aloft, including GUARDRAIL, Joint STARS, and Mohawks. These systems would cue the ACE(-) to possible targets, and Pioneer would confirm or deny these reports. If Pioneer confirmed the existence of threat movement, we would identify and track the enemy for targeting.

"We prefer to be tasked this way. In the past we've been tasked with a 5 by 5 kilometer square and told to tell the supported unit everything in the block. Occasionally, this would produce something the supported unit needed to know, but more often it didn't. Being cued by other sensors is a much better use of our asset," according to White.

However, "One of the problems was that the ACE(-) was getting swamped with information. We were producing considerably more information than the personnel running the ACE(-) thought we would be able to. They had to bring in extra people to help disseminate the information," added White.

Cost. UAVs make good financial sense. At a million dollars each, a UAV is less expensive than a Mohawk. More important, human pilots are not at risk if a UAV crashes. The savings in human life alone make the system almost priceless.

Although the cost associated with the Pioneer Company is relatively low, UAV operations require a lot of support from the warfighter, including a liaison officer and Classes I, III, V, and IX support. The runway must be at least 2,000-feet long by 75-feet wide with an improved surface. Due to the 429-pound weight of the air vehicle, crosswinds cannot exceed

15 knots, and headwinds cannot exceed 25 knots for take-off, and winds aloft cannot exceed 60 knots.

This fall, C Company is scheduled to transition from the Pioneer UAV to the UAV-Short Range (Hunter). There are mixed feelings about drawing the new system. On one hand, the soldiers are sad to see the Army retire a system they have worked with for so long. On the other hand, they are excited about the new system. It is superior to the Pioneer in many ways and the troops are looking forward to working with it.

Maintenance

There are numerous MOSs in C Company. The maintenance soldiers are 33R Electronic Warfare/Intercept Aviation System Repairers and 52D Power-Generation Equipment Repairers. Although these maintenance soldiers attend Pioneer qualification training, there are no schematics for the system. Couple this with having no Army Pioneer supply system, and you can see how difficult Pioneer maintenance is.

"It never ceases to amaze me what these people can accomplish," said Sergeant First Class Joe Nisbet, the unit's First Sergeant. "When you consider that we're operating at about a third of our authorized strength, the unit's accomplishments take on an entirely new dimension. I couldn't be prouder of these soldiers."

With company personnel strength at 38 percent during ODC II, advance notice of taskings to ensure the execution of scheduled and unscheduled system maintenance was critical. We used the Navy Interim Supply System for air vehicle and major component parts, and express mail for parts delivery. Since C Company is the only Pioneer unit in the

Army, supported warfighters cannot even help us get parts.

Conclusion

As the sun was slowly sinking behind them, the recovery crew visually tracked the Pioneer during its base turn. The external pilot called "Final!" as he placed the aircraft in a slip, causing it to lose altitude. Once the aircraft glided over the end of the runway, the pilot pulled the nose up a little for a touchdown with panache.

While the rest of the crew went to recover the air vehicle, the remainder of the company emerged from their dust-covered tents to watch the chow truck scream across the lake bed. It was the end of another successful flight and the beginning of what promised to be another night of 40-plus mile-per-hour winds with blowing sand.

Another few hours of sleep and these same hard-charging troops would be out doing what they do best—assisting the warfighter with the intelligence needed to defeat the enemy on the battlefield.

ODC II was a success for C Company, the MI Corps, and the U.S. Army. Although just one component of the Intelligence Battlefield Operating System, Pioneer again proved that UAVs are a requirement for the present and future battlefield. However, leaders must remember that soldiers are the reason for any system's success, which cements C Company's leadership philosophy, **Soldiers First=Mission Accomplishment**.

CPT Hinsdale is Commander, C Company (UAV), 304th MI Battalion, 111th MI Brigade. Past assignments include QUICKFIX Platoon Leader, 2d ACR, where he completed the QUICKFIX IIB fielding to 4th Squadron, 2d ACR.

2LT Thomas R. Shenk, a contributing author, is 1st Flight Platoon Leader, C Company (UAV).

BRIGADE INTELLIGENCE SYSTEMS TESTED AT ODC II

by Captain David Stapleton

Operation Desert Hammer VI is the 3d Brigade, 24th Infantry Division's annual National Training Center (NTC) rotation. This year, a new dimension was added—the Army's armored warfighting demonstration of a digitized battlefield. The intelligence piece of the demonstration was Operation Desert Capture (ODC) II. ODC II was designed, in part, to exercise a number of intelligence systems, not normally used at brigade level, in support of the third Basic Combat Training (BCT) rotation.

From any vantage point, the operation was a success. The direct result was greater intelligence at brigade and battalion levels than ever before. The supporting doctrine for these types of operations continues to emerge. During the rotation, we developed insights at the brigade level into tactics, techniques, and procedures (TTP) to support the use of numerous systems:

- ☐ All-Source Analysis System-Collateral Enclave (ASAS-CE).
- ☐ Improved ground station module (IGSM).
- ☐ Unmanned Aerial Vehicle (UAV) Pioneer.

☐ National systems.

The third BCT S2 section developed these TTP, with the assistance of the operations group Bronco team (the team which evaluates brigade staff at NTC).

ASAS-CE

After our CE was installed in the brigade command M577 (tracked vehicle), we conducted new equipment training. We deployed the system to the field at Fort Benning, GA, for our NTC ramp-up Exercise Victory Focus, from late January through February.

The CE's most notable feature is the overlay. It allows the Analysis and Control Element (ACE) to transmit graphic intelligence summaries (INTSUMs) to brigade level, and allows brigade to transmit them among CEs within the BCT. In addition, the CE introduces a phenomenal information transfer capability at the brigade level. It also provides real-time imagery from the UAV or other platforms.

CEs "talk" to each other using four media:

- ☐ Mobile Subscriber Equipment (MSE) packet switching.
- ☐ FM digital over Single Channel Ground Airborne Radio System (SINCGARS) radios.
- ☐ Tactical satellite (TACSAT).
- ☐ High frequency (HF) AM.

The CE's greatest weakness, however, is facilitating this communication. MSE was our only reliable means. During Victory Focus, we were not able to make packet switching work. But after making modifications before NTC, the system worked great. Still, when MSE nodes went down, for whatever reason, so did our CE capability.

Transmissions over FM were intermittent and extremely slow. The problem is exacerbated when FM transmissions are made in a non-secure mode as in live-fire at the NTC. Transmission time is increased by a factor of seven in the non-secure mode. This happens because the voice traffic overrides the digital traffic when transmitted over the same FM net. This frequently requires retransmission of the digital traffic.

Separate digital and voice nets would eliminate this problem, but the Modification Table of Organization and Equipment (MTOE) does not support additional radios.

At NTC, we used a satellite surrogate to replicate TACSATs. Unfortunately, the two communicating CEs had to be within radio line of sight of the surrogate satellite—a major problem in NTC's mountainous terrain. We were unable to use TACSAT effectively, and never used HF AM non-secure. CEs have excellent capability but the challenge of mak-

ing them talk, without making us even more MSE-reliant, remains.

Another CE challenge was the requirement to enter information into the computer and transmit. It took about 15 minutes to get intelligence into the system, transmitted to the user, printed, and delivered into the analyst's hands. Our best efforts took 5 minutes and our worst, 70 minutes. This does not present a major problem during preparation phases; but once the exercise begins, even 5 minutes is a liability.

To eliminate lag time, combat-critical intelligence should be transmitted by voice after passing the line of departure (LD).

Lag time was evident during our live-fire defense. Our higher headquarters, the 54th ID(M), watched the enemy's 73d motorized rifle regiment (MRR) advance into the brigade sector. The 54th ID(M) was CE-capable, and during this fight made no voice transmissions. At 0730, the 54th ID(M) observed the 73d MRR enter sector; but the CE report did not reach us until 0840. During this time, the 73d advanced 22 km. At 0840, we received five reports on the CE, moving the 73d 22 km into our main battle area.

Obviously, operator training plays a part in this problem and needs to be addressed. However, I am convinced that voice is the transmission of choice after passing the LD.

The final CE challenge is reporting to higher headquarters. Currently there is no plan to field a CE to the division tactical command post (DTAC). Doctrinally, the DTAC manages the close battle. All of our intelligence reports to higher headquarters go to the DTAC by voice. If we continue to report to the DTAC, and they are not fielded a CE, we will not be able to use our CE to report to division unless we double report (for example, CE to the ACE, and voice to the DTAC).

Double reporting has a limited real-world chance of success and may even cause confusion at the division level. However, if the DTAC is fielded a CE, other maneuver brigades lose the extremely valuable eavesdrop capability on the division operations/intelligence net.

IGSM

The IGSM offers unprecedented real-time moving target indicator (MTI) information to brigade. We used the IGSM with daily Mohawk flights during Victory Focus and at the NTC with both the E-8 and Mohawk. The results were excellent: moving vehicles simply cannot hide.

However, we had difficulty connecting the IGSM to the tactical operations center (TOC) because of

the size of both the IGSM and the brigade TOC. We finally settled on an open TA-312 (field telephone) line from the TOC to the IGSM, approximately 50 meters away. This problem will be greatly reduced with the fielding of the smaller HMMWV-mounted EGSM (Enhanced Ground Station Module). We also experienced some difficulty in obtaining frequencies to downlink, but this is not a systems problem and will be overcome as we continue to work the system.

UAV Pioneer

The Pioneer proved to be the best intelligence system in the desert. It consistently performed beyond our expectations. With the Pioneer, we were able to follow the forward security element from LD to direct fire fights during a forward detachment attack. We could count defensive fighting positions (with six-digit grids) during the motorized rifle battalion (MRB) defense. However, the link from the pioneer to the brigade TOC was unnecessarily cumbersome. The UAV downlinked into the ACE, which then transmitted the data by CE to the brigade.

The initial draft of FM 34-25-2, *Unmanned Aerial Vehicle-Short Range*, discusses UAV operations in support of a maneuver brigade. If the UAV is only supporting a brigade, as was frequently the case at NTC, then a command relationship from the brigade to the UAV company (probably operational control) is the choice. If the UAV is flying in support of division requirements, we could require a UAV company liaison officer to enter a brigade radio net when the UAV enters the brigade sector.

This concept is not without precedent (consider Army Aviation) and would greatly decrease information transmission times as well as maximizing asset usage. FM 34-1, *Intelligence and Electronic Warfare Operations*, references such a concept by saying that if an MI unit uses a maneuver brigade's airspace, the MI unit coordinates for use of the airspace. Having a liaison officer on that unit's net would take this concept one step further.

National Assets

Many other collection assets participated in ODC II and supported the third BCT. The corps Deployable Intelligence Support Element (DISE) or the 24th ID ACE requested use of these assets, as necessary. The biggest challenge for the brigade S2 section was figuring out how to request the asset. We requested information using various formats, with coaching from many groups. One recommendation was that brigade specify the asset that we

wanted to use to observe a named area of interest (NAI).

This was particularly challenging because brigade lacked experience in using the assets, and the availability windows for use of the assets changed frequently. Also, if a request is too specific (for example "Use U-2 advanced synthetic aperture radar system [ASARS] to observe NAI 1 from 180600-180700"), the asset we choose may not be available (for example, the U-2 is down for maintenance). If we request that the division observe NAI from 180600-180700 and specify what we need to know about that NAI, the division collection manager can determine which asset can best satisfy the request.

FM 34-2, *Collection Management and Synchronization Planning*, defines what each request must have:

- ☐ What (activity or indicator).
- ☐ Where (NAI).
- ☐ When (when indicator is expected to occur or latest time of intelligence value [LTOIV]).
- ☐ Why (justification).
- ☐ Who (who needs the results).

The best solution may be to use the what, where, when, why, and who format from FM 34-2, page 3-5, but further specify "what."

We should tell division what level of information we need on the "what" (for example, "immediate MTI feedback on vehicles moving through NAI 1 or hard-copy photography"). This is similar to the statement of intelligence interest or "collection intent" that our doctrine prescribes at the joint level. This method gives the division collection manager a clear understanding of what the brigade needs, but does not limit it to a particular asset. Additionally, this method allows brigades to concentrate their time and energy at their own level, instead of trying to task assets they do not control or communicate with.

Summary

ODC II demonstrated that emerging intelligence systems provide brigade and below commanders a significantly enhanced capability to see the battlefield. Never before has such accurate, timely intelligence been available to warfighters. The intelligence challenge is to maximize the capabilities of these systems and to develop TTP to support their use. It is essential that we share experiences to assist in doctrinal development.

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The MI Revolution

The Analysis and Control Element (ACE) and The All-Source Analysis System (ASAS)

by Major Keith Ryan

Foreword by Lieutenant Colonel Nick Grant

As the 82d Airborne G2, I watched Major Ryan and his soldiers bring the Army's tactical intelligence innovations—ACE and ASAS—to the "All-American" Division. That process included an organizational restructuring from the split Division Support Element (DSE) and Technical Control and Analysis Element (TCAE) into a single tactical fusion center—the ACE—as well as fielding the ASAS as the First Unit Equipped (FUE).

This article is one of many steps in the process of passing on lessons learned from the prototype ACE and ASAS units. We will continue to provide feedback from our experiences to assist sister divisions as they are equipped with ASAS and transition to ACE.

ACE is the way it should have always been. An ACE at division or corps makes all-source fusion a reality. ASAS is the hardware and the software that frees great analysts and battle captains from time-consuming non-analytic functions.

Introduction

The Army MI community is undergoing a revolution in doctrine and support to the tactical commander. The formation of the ACE at division and corps creates—for the first time—an organization that conducts intelligence fusion in one location. This allows rapid analysis and transmission to the tactical commander. Likewise, the development of the ASAS greatly enhances the capability of division and corps to conduct fusion in a rapid, expeditious manner.

This article gives the reader a general idea of what ACE and ASAS are and, specifically, how this intelligence revolution occurred in the Army's FUE

with ASAS, the 82d Airborne Division.

The ACE concept collocates the TCAE at division and corps with its counterpart DSE or Corps Tactical Operations Center Support Element (CTOCSE).

The entire analytical effort of the division and corps falls under one organization and command and control headquarters. This facilitates a collective, focused, and directed intelligence effort. The ACE provides the G2 with a single integrated analytic element able to implement the five doctrinal tenets of IEW support to force projection operations:

- ☐ The commander drives intelligence.
- ☐ Intelligence synchronization.
- ☐ Split-based operations.
- ☐ Tactical tailoring.
- ☐ Broadcast dissemination.

ASAS is the primary intelligence processing system supporting the ACE. Through an established communications architecture, ACE and ASAS link information together from national, echelons above division, and division level intelligence assets and agencies. Together, they process, collate, and parse this data to produce a common picture of the battlefield. The analyst can then focus this picture of the battlefield to concentrate on specifics.

The ASAS consists of two individual enclaves of six workstations each to process information at the sensitive compartmented information (SCI) level. Additional workstations are tailored to work with collateral intelligence. ASAS supports the commander through increased speed of processing, automated analyst tools, and automated communications interfaces.

ACE and ASAS in the 82d Airborne Division

The 82d Airborne Division was the Army's FUE with ASAS in September 1993. The precursor to this

fielding was the division's transition to the ACE. Subsequently, a two-month new equipment training (NET) period—culminating in an ASAS field training exercise—completed the division's fielding. The 82d Airborne Division "signed for the keys" to ASAS on 3 December 1993. This left only three months and two division train-ups to prepare for the division's Battle Command Training Program (BCTP) Warfighter Exercise.

The fielding had its leadership challenges, especially considering the division's operational pace. We were responsible for—

- ☐ Reassigning all intelligence analysts from the division G2 Headquarters and Headquarters Company staff to the 313th MI Battalion, and moving them from one barracks to another.
- ☐ Maintaining newly acquired vehicles and generators.
- ☐ Meeting additional staff duty and charge of quarters manning requirements.
- ☐ Integrating the ACE into the MI battalion staff process and working out the delicate balance of competing demands from two bosses: the division G2 for intelligence support, and the MI battalion commander for training, administrative, and logistic support.

After just three months with the ASAS, the 82d fully integrated it into division tactical operations and recently completed a highly successful BCTP Warfighter Exercise. However, much remains to be done. Command relationships and competing demands from the G2 and MI battalion must still be coordinated. We have already begun to incorporate real-world data bases for 82d Airborne Division contingencies.

New Equipment Training

The 82d Airborne Division had a month to prepare for receipt of ASAS. Before we could begin NET, we had to train soldiers on tasks specific to ASAS. One of the most important of these is the Joint Interoperability of Tactical Command and Control Systems and the U.S. Message Text Format (JINTACCS/USMTF) message formats.

At the same time, we began our transition to the ACE concept. We informally began to move the old DSE from the division headquarters and collocated it with the MI battalion TCAE in the MI battalion secure facility. Orders and movement of soldiers would follow.

Additionally, we insulated our soldiers from outside distractions for the two-month NET period. Although easily done, it put a heavy burden on the officers and warrant officers in the ACE. What we failed to do was to understand and then identify the

importance and varying degrees of difficulty of the individual all-source enclave workstations. We also failed to stabilize our trained soldiers and, consequently, lost some of them to PCS/ETS after they were trained.

The NET went well for the division. We successfully "fenced" our soldiers and were supported throughout by the division staff and 313th Battalion command group. The culminating exercise was the ASAS field training exercise (FTX) in November 1993 where the entire G2 staff deployed to the field. In this exercise, the division—

- ☐ Validated ASAS training with our soldiers.
- ☐ Enabled the G2 staff to identify how we would incorporate the new ACE configuration into the division main command post and with G2 operations.

Overall, the FTX went well except for the collateral enclave's (CE) performance. This enclave is designed to be the commander's collateral "window" into ASAS. Software problems prevented the division from using it to the fullest. Additionally, simulation support and coordination for exercises subsequent to the ASAS FTX/NET must be coordinated at this point to incorporate ASAS into division level exercises. Most simulation centers need time to identify and work through inherent problems ASAS brings to the simulation environment.

Transition to ACE/MI Battalion

Personnel. This is probably the most sensitive and challenging issue relating to the shift to the ACE configuration. Any time soldiers have to relocate from one unit to another, the stress level increases. To alleviate some of the anxiety, we delayed cutting orders and moving soldiers until after the ASAS NET. We wanted the soldiers to focus all of their duty time to learning the new system. We also kept them continually informed on what and when changes would occur. When the NET was completed on 3 December 1993, we formally cut orders for soldiers assigning them to the MI battalion.

Personnel authorizations under the ACE concept are significantly less than under separate DSE/TCAE modified tables of organization and equipment. Authorizations for E-5 and above increased, while those for E-4 and below decreased. The fear is that we will develop the old "field station" mentality. This creates an abundance of higher ranks and, consequently, our NCOs do not receive the leadership positions and experience necessary for their professional development.

We tried to alleviate this by creating as many subordinate teams and sections as feasible. By integrating into the battalion, we now have additional

duty requirements that give NCOs training and leadership development opportunities.

Equipment. Equipment issues were a source of frustration between the division Headquarters and Headquarters Company commander; the Headquarters Service Company, 313th MI Battalion commander; and the ACE NCOIC. The resolution of these issues required all parties to come on board early and to work out the details of lateral transfers and property book transactions inherent in transitioning to the ACE and into the MI battalion.

The ASAS equipment the unit brings to its property books is voluminous and difficult to identify and hand receipt. Hundreds of individual cables (not Class IX) and disk drives make overall system accountability extremely difficult. Close coordination from the beginning, from the time the equipment is off-loaded and brought to the unit, will help alleviate some of these problems.

Do not allow the program manager to bring anything into the SCI facility until it has been inventoried, accounted for, and signed for. Otherwise, when you hand over the system, you will waste a lot of time accounting for missing or misplaced equipment.

Rating scheme. The ACE, and everyone associated with it, responds to and supports the G2. Ninety percent of everything the ACE does is in support of the G2. However, in the 82d—and according to MI doctrine—the ACE and its personnel fall under the chain of command and rating scheme of the MI battalion commander. In the 82d, the battalion commander rates the ACE OIC; the assistant division commander-support is the senior rater. The division G2 intermediate rates the ACE OIC.

The respective G2 and MI battalion commanders must agree upon individual unit rating schemes. They need to know the different requirements the ACE must respond to for both individuals. The ACE chief is the most difficult intelligence position in the division, according to the 82d Airborne Division G2.

MITT/THMT integration. Since the ASAS currently has no imagery capability, we used the Mobile Integrated Tactical Terminal (MITT) to provide this for us. The MITT's utility is twofold:

- ☐ It provides secondary imagery for ACE use in targeting.
- ☐ It is a backup to the electronic intelligence (ELINT) analysis capability of the ASAS as well as a collector.

The MITT's alternate position is remoted into the ACE and its imagery capability is used with the targeting section of the ACE. Simultaneously, ELINT analysis is conducted in the MITT itself. This solution works great for the division and is an interim solution to the lack of an ASAS imagery capability.

FTX/Warfighter Operations

Let's look at the organization of the ACE and how we organized and operated for combat/Warfighter (see Figure 1):

Single-source enclave. The six single-source workstations are tactically tailored to meet mission and threat requirements. These workstations provide the division with the bulk of its intelligence from national assets. They also provide the battlefield picture from organic division signals intelligence (SIGINT) collection assets.

We organize with a base of two workstations—a system supervisor workstation and a targeting work-

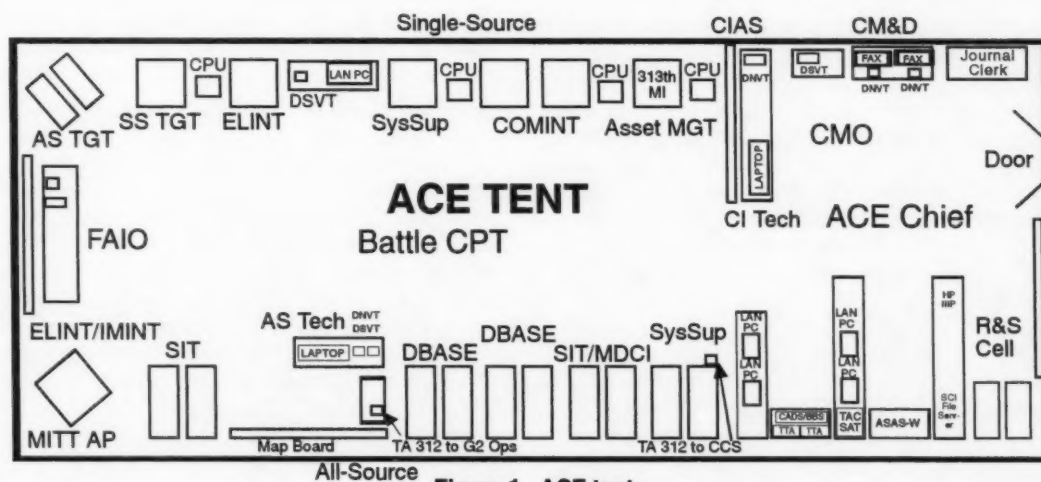


Figure 1. ACE tent.

station. The SIGINT technician does not sit at a position and, therefore, is free to do node analysis, write signal summaries and electronic summaries, and interact with SIGINT analysts and order of battle (OB) technicians. The 82d conducts "tactical tailoring" with the four remaining workstations.

Based on specific threat and operations intensity, we task organize these workstations to facilitate control of the battlefield framework and the MI battalion assets coverage. We had a Warfighter scenario of operations other than war in a high SIGINT environment. The workstations were organized by battlefield framework (deep, close, rear) and by communications intelligence (COMINT) and ELINT to facilitate analysis of an enormous amount of traffic and still answer the commander's priority intelligence requirements (PIR).

The targeting workstation simultaneously monitored deep COMINT targets. Positioned adjacent to targeting is a third workstation for ELINT. This positioning was decisive in the success of our Warfighter. The deep battle was a critical fight for the division and, consequently, occupied most of the focus for the ACE. Our SIGINT targeting NCOs and ELINT workstation NCOs developed techniques to cross-analyze data.

Based on the "pictures" on their single-source screens, they conducted OB analysis. They also associated various radar hits with COMINT hits to identify and validate high payoff targets for the field artillery intelligence officer (FAIO). The fourth workstation monitored the area from the corps deep battle hand-over line to the close battle area. The fifth workstation covered the close battle area to the division rear boundary. There was necessary overlap, which forced our analysts to talk and to analyze.

In summary, the single-source enclave consisted of a system supervisor, a targeting/deep COMINT, an ELINT (entire area of operations/interest), a close battle, and rear area operations. Our remaining workstation was dedicated to our counterintelligence analysis section (CIAS). CIAS had a singular focus of fighting the multidiscipline counterintelligence (MDCI) and counter-reconnaissance fight. ASAS alarms set for the CIAS workstation were specific to the counter-reconnaissance high payoff target list developed by the FAIO and the fire support element (FSE).

This task organization paid big dividends for the ACE and the division. The division FSE had direct access to SIGINT data via the FAIO and the single-source targeting NCO. The division Air Force liaison officer, the division aviation officer, and the aviation brigade S2 could coordinate with the ELINT workstation NCO for analyzed OB radar data for deep at-

tacks. They also received information on remnant and stay-behind forces from the close and rear workstations. The CIAS and the information provided to the division support command (DISCOM) S2 and the rear command post greatly assisted the division rear in its fight.

COMINT and ELINT data provided the CG with indicators of enemy actions. They also gave the CG an idea of the division deception plan's effectiveness. The CG personally reviewed single-source workstation products and grilled analysts for interpretation. This further demonstrated the CG's confidence in both ASAS and our analysts.

The only concern we had about the CG personally reviewing these products was not to overwhelm him with the voluminous data the ASAS produces. This was not the case. The CG was able to interpret on his own and grew to trust the capabilities he was becoming familiar with.

Our focus now, in addition to developing contingency data bases, is on formulating methods and procedures for environments that cause the division to be heavily reliant on our organic assets. We have task organized with workstations dedicated to specific MI company teams, general support assets, and CI teams.

The biggest challenge is establishing the data link between battalion transcript and analysis (TA) cells and the ASAS Communications Control Set for input into the single-source enclave and for technical tasking. We are very reliant on the PSC-2 (VHF) data processor and ARC-164 TIGER (UHF) for message traffic. Keyboards on the PSC-2s at the company team TA cells are critical for quickly transmitting reports. Building the PSC-2 message format and deleting only the message text portion for the next message also speed transmission. We are still refining and standardizing these procedures. The bottom line, though, is that ASAS is talking data to our TA cells.

All-source enclave. This enclave consists of six workstations. In the 82d, we tactically tailor our use of these workstations for our needs and those of the commander.

The primary difference between our concept and that of the system designers is in the use of an additional situation workstation as opposed to any use of the intelligence collection management (ICM) workstation. Our experience identified the overall impracticality of the ICM workstation. The software is user unfriendly, and requires the collection manager to be tied to the system for too long.

Junior enlisted soldiers are too inexperienced on division, corps, and national collection assets, and identifying and answering PIR and requests for in-

formation (RFIs) to effectively use this workstation. It is more efficient to continue collection management via the manual mode. Thus, we can incorporate guidance from targeting boards or CG updates directly into our collection plan. It doesn't take a lot of time to input data into ASAS.

The value of ASAS is apparent during computer simulation exercises. Without ASAS, the volume of traffic with its need for journals and logs would be too much for any unit to keep up with and still maintain a current picture of the battlefield.

We could use the ICM workstation for either an additional data base workstation (which we did for our Warfighter Exercise) or for situational development (which we did for our ramp-up exercises before Warfighter).

The value of ASAS is apparent during computer simulation exercises. Without ASAS, the volume of traffic with its need for journals and logs would be too much for any unit to keep up with and still maintain a current picture of the battlefield. It is the **all-source data base that is the key to accuracy and currency of the picture provided to the commander.** A variety of reports flow in from sources at every echelon:

- ☐ Maneuver brigades and battalions.
- ☐ Division long-range surveillance assets.
- ☐ Corps and EAC collection assets.
- ☐ National assets.

Reports also enter the all-source data base manually and electronically from the single-source enclave.

The all-source situation workstation is simply the old situation map. However, any resemblance ends there. The situation station provides the current location of any enemy force listed in the data base. This can be tailored to individually portray enemy reconnaissance elements, air defense artillery sites, maneuver elements, or any other unit listed in the data base. We use the high-speed color printer to print the current situation screen on the terminal display. This provides a graphic INTSUM or briefing slide for the division commander twice daily or more frequently if the situation dictates.

The targeting workstation is also a key to the counterbattery fight of the division. We collocate this workstation with the FAIO to provide the most current target data to the FSE for incorporation into the TACFIRE system. The division is now working on

ways to incorporate the ASAS-Warrior directly into TACFIRE for even greater response to enemy targets once identified.

Headed by a battle captain, the all-source enclave relies heavily upon its trained operators. Under the tutelage of the OB technician, the operators key in on answering the commander's PIR by setting "alarms" for their terminals (situation and targeting) based on analysis of the threat and the friendly scheme of maneuver.

It is imperative that each soldier thoroughly understands the friendly as well as the enemy situation to fully utilize ASAS. It is during this process where the reality of the ASAS as an analyst's tool is obvious; without the operators having a clear idea of the enemy threat, doctrine, and courses of action, they are simply terminal operators, not intelligence analysts.

Additionally, the requirement for operators to translate PIR or information requirements (IR) into specific orders and requests (SORs) or specific information requirements (SIRs) by intelligence discipline cannot be overstated. Finally, the battle captain ensures the integration of the single-source enclave into the all-source analytical effort.

Collection management. As mentioned, we continue to rely on the manual mode of performing collection management. However, we do integrate the SIRs, identified by the all-source and single-source enclaves, into the SORs outlined in the intelligence synchronization matrix and collection plan. This assists the analyst by focusing subordinate and higher commands on the exact requirements of the ASAS operators.

We have one of the best trained collection management sections in the Army and feel that we can best use this workstation for other purposes. If necessary, we have qualified personnel to operate this workstation should the need arise.

Collateral enclave. The CE—though not part of the ASAS Block I fielding—is in the 82d Airborne Division and we have attempted to use it but with limited success. This system has great potential for the combat commander but needs extensive work before the 82d can deploy it to any contingency area. Deficiencies include—

- ☐ Inability to input and send brigade and subordinate command reports from CE to ASAS and update the close fight for the ACE.
- ☐ Difficulty in creating overlays such as avenues of approach, NAIs, or division support template overlays.
- ☐ Extreme difficulty in receiving, sending, and queuing messages without highly trained operators.

This workstation is meant to be the commander's "window into ASAS." To date, this potential has not been achieved. The U.S. Army Intelligence Center is currently working on software and hardware issues relating to this problem and all of us are hopeful that the system will be ready when needed.

ASAS-Warrior. The 82d Airborne Division uses its limited numbers of ASAS-Warriors (ASAS-W) for en route contingency communications. This system is flown on the division assault command post during contingency operations. While on the aircraft, users of this mini-Deployable Intelligence Support Element (mini-DISE) can tap into existing Air Force communications (Hatchmount) and receive intelligence updates and secondary imagery dissemination (SID) from Fort Bragg. Once in the operational area, this system is hooked into a satellite radio (such as MST-20 or LST-5) and again receives updates and SID from home station or "sanctuary."

During our Warfighter Exercise, this system worked exceptionally well as a backup to the ASAS for communications and message traffic with the simulation center. In the future, 82d maneuver bri-

gades will be issued the ASAS-W and have their own "window into ASAS" via the CE.

Huddles. We initiated this practice during our ASAS FTX and it has become SOP since. We conduct huddles every two hours. During these times, all ACE personnel turn their attention to the OB technician or the battle captain, who follows a checklist discussing such things as—

- ☐ Current enemy situation.
- ☐ Current commander's critical intelligence requirements (CCIR)/PIR.
- ☐ System status since the last huddle.
- ☐ Friendly activities or future plans so that analysts can then readjust ASAS alarms as necessary. (See the Chart below for example checklist.)

Future Operations/Challenges

Integration of organic assets into ASAS. Having participated in Operations Just Cause and Desert Shield/Storm, the 82d Airborne Division recognizes the importance of organic intelligence collec-

ACE Huddle/Shift Changeover Checklist

1. **Friendly situation** (FAIO, G3 Ops).
 - a. Operations in progress.
 - Timeline review.
 - Deep attack plan (conditions/criteria/BDA results).
 - b. Future operations.
 - Deep attacks: desired conditions/LTIOV.
 - New warning orders, OPORDs TBP.
2. **Enemy situation:** Bottom line up front—most significant threat to 82d ABN.
 - a. Deep battle (OB technician).
 - b. Close battle (G2 operations).
 - c. Rear/C-reconnaissance battle (CIAS).
3. **Friendly intelligence situation** (CMO/battle captain).
 - a. PIR/IR status: answered/outstanding/changes.
 - b. IEW synchronization matrix review.
 - c. Collection operations: current/future.
4. **Targeting status** (FAIO, targeting NCO).
 - a. Number of nominations per HPT worksheet.
 - b. FAIO requirements/feedback, TVA.
 - c. Targeting board requirements.
5. **Analyst summaries** (PIR/IR, HPTs, "picture," targets).
 - a. All-source/data base/situation development workstations.
 - b. Single-source (cross-talk, unit association).
 - COMINT: deep/close/rear.
 - ELINT/IMINT: (aviation routes, SEAD, MITT status).
 - c. CIAS: MDCl assessment/summary, C-reconnaissance Situation.
6. **Section status.**
 - a. ACE NCOIC.
 - b. All-source system supervisor.
 - c. Single-source system administrator.
 - d. CIAS OIC/NCOIC.
 - e. OB technician (report status—INTREPs, INT-SUMs).
 - f. CM&D (incoming/outgoing reports status).
7. **Battle captain summary.**
 - a. Enemy situation/COA.
 - b. 82d Division operations time line.
 - c. PIR/IR status/update to IEW synchronization matrix.
 - d. Taskings to analysts/IPB support to battle management center (BMC).
 - e. Change of mission guidance/procedures (graphics changes, etc.).
 - f. Shift change procedures.
 - g. Time hack.

tion systems. We are, therefore, endeavoring to fully integrate the transcription and analysis (TA) cells of the battalion into ASAS operations. The recent battalion intensive training cycle went a long way in accomplishing this critical task. We intend to continue this trend into the remainder of the battalion training year.

Development of real-world data bases. ASAS is currently incompatible with national level message formats. Although national level agencies use JINTACCS/USMTF formats, the majority use the free text field. ASAS cannot take information from this free text field and conduct the automatic parsing functions that make it so indispensable.

For the 82d Airborne Division and its contingency focus, this is a potential war-stopper. The U.S. Army Intelligence Center, along with Defense Intelligence Agency and other national agencies, must come to grips with this issue. They will have to implement strict adherence to JINTACCS/USMTF formatting of

powerful revolution—ACE and ASAS.

The Division G2, Lieutenant Colonel Nick Grant, summed up the potential of ASAS:

The combination of a new structure—ACE—and new equipment—ASAS—markedly enhances the division intelligence system. The analytic effort is no longer overwhelmed by message logging and map posting. Analysts have more of our most limited resource—time—for analysis. In spite of Block I's limitations, ASAS is revolutionary and in the near term will realize its great potential.

The initial draft ACE SOP is available for anyone who wishes a copy. Included in the SOP is a copy of the 82d Airborne Division's ACE METL with accompanying collective and battle tasks. Additionally, a diagram of our Warfighter simulations communications architecture is at Figure 2. This communications architecture, designed and implemented by the collection management and dissemination section of the ACE, was absolutely critical to our success.

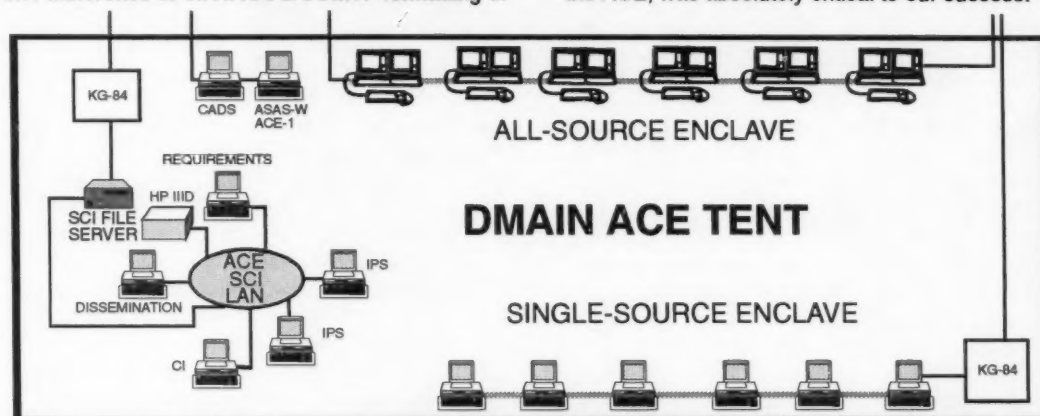


Figure 2. Dmain ACE tent.

messages, at least to the tactical level. This will allow the tactical commander access to the battlefield operating system through ASAS and the seamless intelligence architecture we continue to strive toward.

Conclusion

ACE and ASAS support the warfighter. In the words of the division commander, Major General Steele, after the recent Warfighter Exercise:

I have witnessed a revolution in intelligence support since the transition to ACE and ASAS...After four months, it is apparent that ACE is long overdue and is the key to tactical fusion and a truly seamless intelligence architecture. The concept is a reality in the 82d and we are not looking back, only ahead to realizing ACE's full potential...Congratulations to the intelligence community's quiet but

As mentioned, the entire process took less than five months. Although outwardly optimistic, the division G2, MI battalion commander, and the ACE chief accepted risks and were skeptical about the ability of the division to accomplish the immediate transition to ACE and accelerated fielding in the few months before Warfighter. The success is due to the determination of the outstanding MI soldiers and NCOs. Through it all they were the true professionals we have come to expect and in every way upheld the division motto, "All the way, Sir. AIRBORNE!"

MAJ Ryan is ACE Chief, 313th MI Battalion, 82d Airborne Division. He is a graduate of St. Anselm College, Manchester, NH, and a distinguished military graduate of the University of New Hampshire ROTC program. Previous tactical assignments include light infantry battalion S2, CI company (ABN) commander, and armor brigade S2.

The MDCI Analysis Void



by Major Ewald H. Coet

Imagine yourself in the following scenario. You are on a field training exercise (FTX) or in combat. The commanding general (CG) enters your tactical operation center (TOC) for a situation and decision briefing. The G2 representative provides the CG with a detailed weather and enemy situation briefing. The CG is impressed with the G2/G3 briefing which provided a decision support template and graphic intelligence summary the CG needs to make an informed decision. The G3 representative briefs the friendly situation in detail, and is followed by the G1, G4, G5, and special staff. They have given the CG three courses of action (COAs) and recommended one of the three as the best option. The staff waits for the CG to determine when, where, and in what force structure/task organization forces will be committed. This decision directly impacts the command's ability to win the battle.

The CG asks his G2: "What does my enemy counterpart know about me and the forces under my command, and what does he think I'm going to do? Specifically, when, where, and in what strength does he think I'll do it? How does he expect me to task organize, and what, if any, deception plan is he likely to anticipate I'll use?"

There is complete silence. Everyone looks around with a questioning gaze. The G2 replies that he can only offer a guess, but it wouldn't be an educated guess, because he and his staff had not war-

gamed this scenario. The G2 says, "The bottom line, sir, is that we don't know the answer to your questions, but we'll try to find out."

The CG responds: "It appears that we have a serious intelligence void; a void which hinders my ability to make a fully informed decision. And there's no time to fill the void before I have to make a decision. Make sure this doesn't happen again, and pray that I will make the correct decision."

The chief of staff, G2, G3, and their respective staffs are collectively embarrassed for having failed to wargame such a critical issue. Everyone acknowledges this serious intelligence void, and its implications.

MDCI Mission Responsibility

This scenario could happen in any U.S. Army TOC, at any echelon from battalion to echelons above corps (EAC). It could happen in an equivalent TOC of a sister service, at a unified command post, or at the national level. No matter where it happens, the result would be the same—an inexcusable intelligence void! The G2s and J2s should have the answers to these questions any time their commander asks for them. That is precisely why they have a multidiscipline counterintelligence (MDCI) analytical capability.

At any echelon from division through EAC, the unit responsible for MDCI analysis must be able to answer questions regarding the enemy's perspective of the friendly force. Producing analytical prod-

ucts and assessments on "how the enemy sees us" is the heart of the overall MDCI analysis mission. It pertains directly to the primary mission of MDCI analysis—force protection.

The use of MDCI analysis in force protection, and more specifically in targeting, and its enormous value as a combat multiplier was never fully realized.

MDCI Analysis Evolution

In the late 1980s, the Army tried to fill the MDCI void, and MDCI analysis started to evolve. The Army Intelligence Center and the Defense Intelligence College developed MDCI curriculums. MDCI sections, primarily at corps and national levels, dedicated a few resources to the MDCI analysis effort.

The unified command took action to build an MDCI capability it did not previously have; however, MDCI analysis sections at corps were mostly used to fill operations security (OPSEC) and intelligence analysis requirements. These requirements were evidently deemed more important than MDCI analysis. Little, if any, MDCI analysis was accomplished before 1990.

Clearly, the Army MDCI analysis effort was evolving. Sister services and joint commands were, and still are, lagging behind the Army in this regard.

This evolution was short-lived. Although unintentional, MDCI analysis has drifted back into neglect due to—

- ☐ The breakup of the former Soviet Union and Warsaw Pact countries.
- ☐ The unification of Germany.
- ☐ The speed of Gulf War operations. (MDCI analysis was not used in any significant way.)
- ☐ The current force drawdown.

The use of MDCI analysis in force protection, and more specifically in targeting, and its enormous value as a combat multiplier was never fully realized. MDCI analysts, with few exceptions, were not given the training to fine-tune their multidiscipline analytical skills.

The Problem

An important mission of MDCI analysis is targeting. However, using MDCI in a targeting role is seldom accomplished. Improvements in the MDCI analysis effort have been largely confined to building data bases on—

- ☐ The intelligence collection apparatus of potential adversaries.
- ☐ Counterterrorism.

- ☐ Counter-narcotics.
- ☐ Rear area intelligence preparation of the battlefield (IPB).

While these functions are all important, they do not fall under the MDCI analysis umbrella. Rather, they lie within the intelligence analysis arena. The U.S. Army is good at conducting MDCI operations, but poor at MDCI analysis at the tactical and operational levels. At the strategic level, MDCI analysis is almost nonexistent.

The following are important elements in MDCI success:

- ☐ Commanders and operators should ask for MDCI analysis products, and recognize that **MDCI analysis is a command responsibility.**
- ☐ G2s/J2s should educate commanders and operators on MDCI analysis.
- ☐ G2s/J2s must insist that their MDCI analysts thoroughly analyze how the "enemy sees us."
- ☐ MDCI analysis staffs should read and adhere to MDCI analysis doctrine, and should "sell" MDCI analytical products to their leaders.
- ☐ MDCI analysis should be incorporated into the G2/J2 situation and decision briefings.
- ☐ MDCI should be included in analysis planning (especially deception planning).
- ☐ MDCI sections must be assigned appropriate missions/analytical responsibilities, such as rear area threat analysis.
- ☐ Only accomplished field grade all-source intelligence analysts should be assigned as MDCI analysis section chiefs.

If you walked into an Analysis and Control Element (ACE) today, you would see an MDCI data base depicting the multidiscipline collection capabilities of potential adversaries. The operators could recommend good OPSEC and communications security procedures. Some ACEs could even develop and analyze single-discipline counterterrorism or counter-narcotics matrixes. Most have exceptional rear area IPB skills. But no matter how important this information is, none of it is MDCI analysis. It is "intelligence analysis," as opposed to "MDCI analysis," because all of it is concerned with "what we know about the bad guys" instead of "what the bad guys know about us and what they anticipate we will do." **By definition, MDCI analysis is seeing yourself from the enemy's perspective.**

A Combat Multiplier

We already have the doctrine, training base, skills, and tools to do MDCI analysis. Even with drawdowns and limited resources, we require no ad-

ditional money, equipment, or personnel to accomplish the mission. Until we use MDCI analysis for targeting within the mission of force protection, we will never take full advantage of its role as a combat multiplier.

While the mechanics of accomplishing MDCI analysis are difficult at times, the principles of MDCI analysis are simple. These principles are outlined in the following paragraphs.

Reverse IPB and Templating

By conducting IPB targeting (air, land, or sea) for force protection in reverse, one has all the essentials to be a first rate MDCI analyst. The MDCI analytical target is us—the friendly force. We have to look at ourselves from the enemy's perspective. We will use the IPB process and the data base we have already developed to create a decision support template (DST) on the friendly force.

The enemy, like us, must maximize limited intelligence collection resources. For example, any potential adversary must determine how we doctrinally deploy our forces, the same as we do in reverse. As our field manuals on this subject are unclassified, and since countless foreign students have attended courses in which we teach this doctrine, the MDCI analyst must assume the enemy has this information in his data base.

The enemy, again like us, must array or target his intelligence collection resources in the most opportune place and time. To do this, he must conduct terrain and weather analysis to establish our most likely mobility corridors and avenues of approach (a situation template). Based on his terrain analysis and doctrinal template on the friendly force, the enemy can determine where and when to deploy his limited intelligence collection resources to maximize their collection capability.

The MDCI analyst plots these "enemy" collection resources (obtained from his data base) positioned to maximize coverage of the friendly force. This is based on the analysis he has done thus far. From his data base, the MDCI analyst should already have a good idea of the range, capabilities, and limitations of enemy intelligence collection resources. Gaps become a priority intelligence collection requirement for the friendly force.

Next, the MDCI analyst must obtain the most current friendly situation from his own G3/J3 and plot it. Because of maneuver and communications delays, this information will never be current. However, this adds to the realism and will result in a better analytical product. (The enemy wouldn't have perfect intelligence any more than we would.) With his enemy situation (our friendly situation) posted, along with

his overlay of doctrinal positions, adjusted to the situation template, he now has a clear picture of what the enemy can see and hear of the friendly force. With this information, he produces a surprisingly accurate depiction of likely friendly force COAs. (He has created an event template on the friendly force.)

The MDCI analyst, like the intelligence analyst, takes this information and plots named areas of interest (NAIs), target areas of interest (TAIs) and decision points (DPs); except that he is doing this on the friendly force. The MDCI analyst has just created a DST on the friendly force.

Even if the MDCI analyst went no further, he could already give his commander a fairly accurate briefing on "how the enemy sees him." He could do this in terms of—

- ☐ His force structure and task organization.
- ☐ Mobility corridors the enemy knows are available to him.
- ☐ What the enemy sees as his most likely avenues of approach (main and supporting attacks).
- ☐ Those times and areas where the enemy will target his collection resources on the friendly force (the enemy's NAIs on the friendly force).
- ☐ Those places and times the enemy believes the friendly commander is most vulnerable to attack.
- ☐ When and where the friendly commander can most likely expect to be attacked (the enemy's TAIs on the friendly force).

The MDCI analyst could also explain what the enemy believes the friendly force commander's DPs are. In essence, the MDCI analyst could provide his commander with what is probably a very close depiction of his counterpart's G2/J2 intelligence briefing.

The value of such information cannot be overestimated. We have the analytical capability to do it now at no additional cost. This alone makes MDCI analysis worth the effort; but the MDCI analytical capability gives us much more. We can use our MDCI data base and the friendly force DST to accomplish a major mission within force protection—targeting.

MDCI Analysis Targeting

The MDCI analyst, according to doctrine, must target for destruction, neutralization, or exploitation:

- ☐ "Targeting for destruction" is locating and destroying the enemy's intelligence collection resources when it is practical (and possible) to do so, and when it is advisable to do so. Sometimes it is not advisable to affect such

destruction, even when possible and practicable.

- ☐ "Targeting for neutralization" is rendering the enemy's intelligence collection efforts useless or ineffective.
- ☐ "Targeting for exploitation" is exploiting the enemy's intelligence collection capabilities to the advantage of the friendly force.

The best targeting effort is determined from MDCI analytical products. For example, using the DST the MDCI analyst developed on the friendly force, he might recommend that the commander destroy those enemy collectors oriented on the TAls, since it has been determined through analysis that these TAls are the most likely places the enemy will attempt to destroy friendly forces. In other words, take away the enemy's means to target you and you have greatly limited his ability to destroy/defeat you, thus making MDCI a combat multiplier for the friendly commander.

Through the use of targeting for exploitation, the MDCI analyst will once again have demonstrated how MDCI analysis is a combat multiplier for the friendly commander.

The MDCI analyst might recommend targeting for neutralization of enemy assets oriented on the NAls, especially since it is these NAls that are the most likely places on which the enemy will focus his effort to collect against the friendly force. This is done through jamming or extensive, dedicated OPSEC and COMSEC measures at exactly the right time and place. You can spot-jam to keep the enemy honest, and then barrage-jam the right signals at just the right time, to achieve maximum effectiveness with your own limited jamming capabilities.

Instead of generically ordering your troops to exercise good OPSEC and COMSEC at all times, use MDCI analysis to focus OPSEC and COMSEC at a specific piece of terrain, airspace, or water. By presenting your troops with a well-defined threat, they will pay closer attention to OPSEC and COMSEC procedures. The threat will become more visible to them. It also makes OPSEC and COMSEC procedures, in addition to jamming, more effective at blinding or deafening the enemy's collection efforts.

You will have also caused the enemy to expend his limited resources in vain. He cannot collect against what he cannot see or hear, and his collection effort is neutralized.

The MDCI analyst might recommend targeting to exploit those enemy collection assets oriented on

DPs previously identified in the DST. Through analysis, it has been determined that the enemy believes these DPs are the most likely places the friendly commander will decide on how and when to commit his forces. The enemy, like ourselves, will collect against these DPs to determine the friendly force main attack (assuming he is attacking), or other appropriate COAs.

Once he determines that the friendly force commander has committed himself, the enemy commander can commit his forces at the right time and place to foil this effort. This would be an opportune time and place to "deceive" the enemy into thinking you are turning right, instead of left, and that your main attack will come from the east at grid coordinate XY1234, instead of from the west at grid coordinate AB4567. This causes the enemy commander to commit his forces first, at the wrong time and in the wrong direction and place.

MDCI analysis, used in a deception plan as a means to target and exploit the enemy's collection effort, contributes to the success of the friendly force main attack. The friendly commander is able to mass his force and attack the enemy's weakness instead of his strength to guarantee combat success. Through the use of targeting for exploitation, the MDCI analyst will once again have demonstrated how MDCI analysis is a combat multiplier for the friendly commander.

Conclusion

These are but a few examples of how MDCI can be used to accomplish its targeting mission. The possibilities are endless. As we look at our many new missions and trouble spots in the world, it is readily apparent that we cannot afford to squander a single combat multiplier. This is especially true for MDCI analysis, which carries no budgetary or resource woes. MDCI analysis is a low-cost, high gain resource—"mega-bang for the buck."

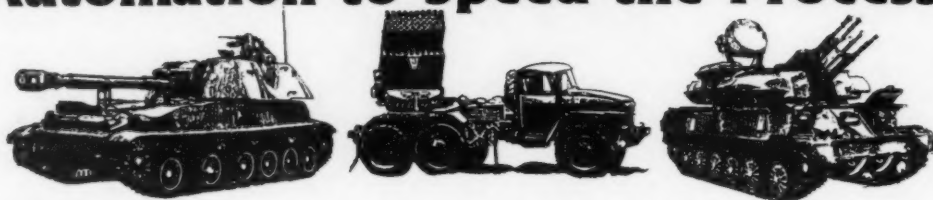
There is one notable drawback to the use of MDCI analysis during tactical operations. The process uses valuable time. The commander must, therefore, weigh the benefits of good MDCI analysis against the constraints imposed by limited available time.

If our senior military leaders grasp the MDCI analytical problem and use this incredible capability, our armed forces would be wiser and more ready. Our leaders need only demand and use the MDCI product.

MAJ Ewald H. Coet has served 20 years in the enlisted, NCO, and officer ranks. He has served in a wide variety of command, operations, staff, and analytical positions in Europe, Asia, the Mid-East, and the U.S.

BDA Analysis:

Using Automation to Speed the Process



by Captain John P. Hightower
and Staff Sergeant John J. McClain

"Okay G2, Contingency Plan Mercury commits our division to an attack in the west against the enemy 51st Truckmobile Division. What is the artillery strength of this unit, as well as the number of tanks and APCs he can commit to his defense in this area? We've already executed two deep strikes against his division artillery group and tank battalion, as well as extensive counterbattery fires over the past 24 hours. How strong is he now? What are his present capabilities? I need new force ratio computations now!"

G2, why do you look so confused? Haven't you been tracking this guy?"

This conversation between a commander and his G2 could take place in just about any command post in the U.S. Army. Hopefully, the G2's confident demeanor is not shattered when such questions are asked. The key to maintaining positive accountability of enemy attrition is the Battle Damage Assessment (BDA) process.

When coupled with good predictive analysis, BDA allows the G2 staff to keep the commander informed of enemy capabilities and vulnerabilities at any given time in the operation, and at any point on the battlefield. Accurate BDA not only aids in the development of various courses of action (COAs) available to the enemy commander, but also contributes to the acceptance or rejection of these options.

This article details the standard program the 4th Infantry Division (Mech) developed to support the BDA effort.

The Problem

FM 34-1, *Intelligence and Electronic Warfare Operations*, and FM 34-8, *Combat Commander's Handbook on Intelligence*, list BDA as one of the Army's six intelligence tasks. In the past, most BDA relied on visual confirmation of target destruction to account for enemy losses. Inaccuracies in reporting enemy losses compound themselves as the battle

continues. Most priority intelligence requirements (PIR) are based in part on friendly assessment of enemy capabilities and are linked not only to enemy actions but also to specific friendly COAs. Faulty BDA can lead to grave errors in the tactical decision-making process. It can cause friendly COAs to be adopted that would otherwise be rejected were the enemy's true capabilities known.

Currently, a U.S. heavy division is able to conduct operations far forward of the forward line of own troops (FLOT) against an enemy force—a capability that can be used to devastating effect. Tactical air and artillery assets can conduct operations too deep for conventional observation to follow. The results of a deep strike by a divisional attack helicopter battalion may not be known until the pilots are debriefed.

Similarly, the effects of counterbattery fires are normally unobserved; the effects of such targeting are unknown until collection assets are tasked to survey the results. A system which takes into account unobserved munitions effects, as well as observed fires, is needed to track BDA. Such a system must be at least partially automated, because the division-level G2 section lacks the personnel to operate a permanent BDA cell.

The primary problem in tracking battle damage lies in factoring in the effect of artillery when it is unobserved. Armor and infantry units primarily employ direct (observed) fires and can report through visual observation. Each maneuver unit employs fire support teams (FIST) or forward observers to control and/or observe their indirect fires; these fires are, therefore, observed and reported upon. Counterbattery, suppression of enemy air defenses, and preparatory fires are generally unobserved and require analysis to determine their effects.

In the past, if a target was confirmed and fired upon, the BDA assumption was 33 percent effectiveness multiplied by the number of rounds fired at the target. Thus, a "battalion three" (a nominal 6 tubes for a total of 18 rounds) fired at a confirmed enemy target would assume that 18 rounds had effect on the target ($18 \times 3 = 54 \times .33 = 18$).

This method implies that all unobserved U.S. artillery is 33 percent effective as a constant, without taking into account other factors, such as—

- ☐ Type and accuracy of artillery system used (for example, 8-inch or 155-mm).
- ☐ Time of target confirmation.
- ☐ Unit strength before engagement.
- ☐ Relative "hardness" of the target (such as dug-in vs in-the-open, dismounts vs APCs).

For example, an enemy mechanized battalion would be assessed a significantly higher kill ratio when fired upon by a multiple-launch rocket system (MLRS) than by 4.2-inch mortars. Additionally, this same battalion at 100 percent strength would absorb more damage than it would at 40 percent strength, because understrength units are more thinly dispersed and have less on-hand equipment and personnel to target, reducing target hit probability.

The Solution

There are inherent inaccuracies in standard BDA computation, and it is inefficient to task scarce G2 intelligence analysts with the permanent BDA mission. For these reasons, the 4th ID(M) G2 developed an automated system to track battle damage and to provide a detailed breakdown on equipment types and various enemy units that have sustained losses. (See Figure 1.)

Our goal was to achieve a plus or minus five percent accuracy in BDA computation by equipment type and unit, while freeing the analyst from continually having to maintain the system. A commercial spreadsheet program on a standard lap-top computer provides a user-friendly method for compilation of BDA data. A simple mathematical equation programmed into the spreadsheet allows the analyst to determine both the amount and type of equipment destroyed and the end strength of the enemy unit.

The 4th ID(M) selected a spreadsheet for this purpose. The division fire support element (FSE) and the air defense officer provided standard weapons effects data for various U.S. weapon systems. This data included Predictive Munitions Effects Tables for dual-purpose improved conventional munitions (DPICM) and MLRS against hard, medium, and soft targets. This data led to the development of an algorithm designed to factor the type of firing system and the relative vulnerability of the target into predicting probable enemy losses for specific fire missions. Figure 2 graphically depicts this algorithm. The following explain these values further:

- ☐ There were two possible values for the **Confidence of Acquisition** column: "1" for observed/confirmed targets and ".75" for templated targets.
- ☐ Under the **Hardness of Target** column, there were three possible values: "1" for exposed targets, ".5" for dug-in targets, and ".01" for hardened targets.
- ☐ The **Timeliness of Initial Report** column could receive one of three entries: "1" for reports that were 30 minutes or less old, ".5" for reports that were from 30 minutes to an hour old, and ".2" for reports over an hour old.

The major limitation of this "first cut" at automated BDA computation was its single-source focus (for example, designed for use with artillery and nothing else). Refinement of the original program allowed input from multiple division assets, such as direct fire systems and air combat systems. Because fires from these assets are generally observed, no algorithm was necessary to factor the input for BDA computation.

We redesigned the BDA program to allow manual input of information gathered from situation reports, spot reports, and pilot debriefings. The resulting program, called "NEWBDA," has the same capabilities as the original program but also allows manual input of data from multiple sources.

(Overall)		TANK				APC				TUBE ARTY			
% STRENGTH		AUTH	DEST	O/H	%STR	AUTH	DEST	O/H	%STR	AUTH	DEST	O/H	%STR
X CORPS	21	248	227	21	8	31	13	10	58	993	698	295	30
(Sub units)													
1 INF DIV	21	31	28	3	10	0	0	0	0	72	63	9	13
2 INF DIV	15	31	30	1	3	0	0	0	0	72	66	6	8
3 INF DIV	13	31	29	2	6	0	0	0	0	72	65	7	10
4 INF DIV	18	31	26	5	16	0	0	0	0	72	69	3	4
1 AR BDE	30	93	83	10	11	31	13	18	58	36	30	6	17

Figure 1. Example of an abbreviated automated BDA work sheet.

UNIT TYPE (BN)	INITIAL STRENGTH TARGET ARRAY	CURRENT STRENGTH TARGET ARRAY	STRENGTH OF UNIT (%)	# ROUNDS DPICM SHOT AT TARGET	# ROUNDS MLRS SHOT AT TARGET	CONFIDENCE OF ACQUISITION	HARDNESS OF TARGET	TIMELINESS OF INITIAL REPORT	ESTIMATED ENEMY LOSSES
SP ARTY	18	18	100	0	0	1	1	1	0
TOW ARTY	18	18	100	0	0	1	1	1	0
AIR DEF	20	20	100	0	0	1	1	1	0
MECH INF	31	31	100	0	0	1	1	1	0
DISMOUNTS	400	400	100	0	0	1	1	1	0
ARMOR	31	31	100	0	0	1	1	1	0
MRL	18	18	100	0	0	1	1	1	0

Note: Separate Munitions Effects Tables can be developed for HE, ATACMS, and other specific munitions.

Figure 2. Example of a Predictive Munitions Effects Table for DPICM and MLRS.

The Program

Setting up the NEWBDA program involves inputting the start data for known enemy units and strengths. Not all enemy units begin an operation at 100 percent strength, so doctrinal tables of organization and equipment (TO&E) for an enemy unit must be balanced against the current intelligence estimate to determine an enemy unit's start data. Because all calculations within the program are based on this data, it is important that it be input correctly, or mathematical errors will compound themselves as the operation continues.

Within the program, equipment losses are categorized as—

- ☐ Tanks.
- ☐ Armored personnel carriers/infantry fighting vehicles (APC/IFV).
- ☐ Tube Artillery.
- ☐ Multiple rocket launchers.
- ☐ Mortars.

These fields reflect the general systems targeted for attrition by 4ID(M). For each equipment type, data is maintained on—

- ☐ Authorized strength.
- ☐ Number destroyed.
- ☐ Systems still available.
- ☐ Percentage on hand.

The authorized strength category comprises 100 percent of the applicable enemy unit's TO&E and remains constant throughout the operation or exercise. (See Figure 1, any row.) This allows the program to account for enemy reconstitution even if the actual start data is less than 100 percent (reconstitution rates are generally 10 percent per day out of contact).

On Figure 1, start data is first entered into the "systems still available" (O/H column), and the pro-

gram automatically determines "number destroyed" (DEST) by subtracting "systems still available" from "authorized strength" (AUTH). Similarly, "percentage on hand" (% STR) is automatically determined by dividing "systems still available" by "authorized strength" and multiplying the result by 100. Thus, the only manual input that the analyst provides is in updating "number destroyed" as new reports arrive.

A unit's overall strength is determined by adding "percentage on hand" of all applicable categories and dividing by the number of categories applied (for example, Tank % on hand + APC/IFV % on hand/2 = overall tank and APC % on hand). The only other value that must be changed periodically is the date-time group.

Enemy units within the BDA program can also be broken down by echelon. Those units within 24 km of the forward line of own troops (FLOT) are considered committed and comprise the first tactical echelon. Units located from 24 to 48 km from the FLOT are considered the second tactical echelon and reserves. Units greater than 48 km from the FLOT are the operational exploitation forces and counterattack forces and are considered the second operational echelon. (See Figure 3.)

The BDA spreadsheet is exportable and is more viewer-friendly when used with a graphics program. Commanders can be given the numbers and percentages in an understandable format to aid in the decision-making process. (See Figures 4 and 5.)

The 4ID(M) developed a BDA program that is adaptable for both air and seaborne use, as well as ground warfare. Algorithms to determine BDA for air assets are in development. When complete, the program will automatically determine enemy lift capability by multiplying the lift capacity of one type aircraft by the number of available aircraft. Both the optimum aerial resupply rate for enemy forces and their

troop transportation capability can then be determined.

Program developers have not yet incorporated weather and terrain factors. Upgrades will take these factors into account, as well as computer reconstitution rates for enemy units in exercises.

FIRST ECHELON		SECOND ECHELON		SECOND OPERATIONAL ECHELON	
TANKS	66	TANKS	33	TANKS	100
TUBE	855	TUBE	280	TUBE	40
MRL	207	MRL	111	MRL	9

Note: Distances can be adjusted to suit user's echelon range requirements.

Figure 3. Systems on hand by echelon.

Conclusion

This program speeds up BDA processing by freeing the analyst from manually converting raw BDA data into usable intelligence. As in other BDA systems used by the Army, the analysts are the key to success. Their ability to use and input all applicable information in a timely manner determines the success of the system. Analysts must always be aware of the current intelligence picture to determine the accuracy of incoming mission fired reports (MFRs) and must be familiar with the applicable enemy's TO&Es.

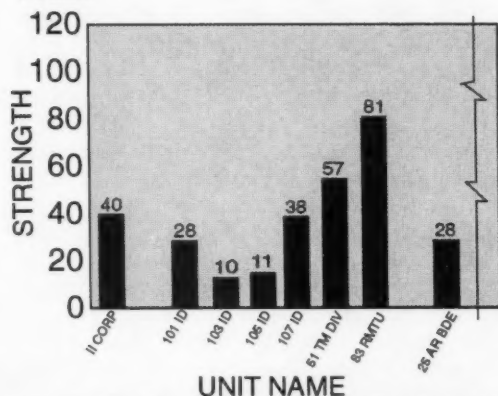


Figure 4. Overall BDA by unit after importation into graphics program from spreadsheet.

The BDA reporting process from subordinate units must be driven to keep the division's BDA picture current. The analyst must be aware of future division missions to anticipate MFRs. Data gained from MFRs is still no substitute for "eyes on" assessment provided by forward units. Use of any automated BDA system does not relieve the analyst from maintaining an accurate BDA journal; this journal is necessary to reassess units believed to be de-

stroyed and for after-action reviews. Analysts must also track indications of follow-on forces and formations of new artillery groupings for incorporation into the BDA program to accurately reflect committed forces.

While tracking BDA is still an effort for the BDA analyst, its increased accuracy is a tremendous aid in answering the commander's PIR/IR.

The personnel involved in the development of the 4ID(M)'s BDA program strongly believe that its accuracy, simplicity, and flexibility make it an enormous benefit to division-size units and below. It can be used either as-is or modified, or simply as an example of one approach to analyzing BDA.

To obtain information about the program, call Captain Hightower at DSN 691-5727 or Commercial 719-526-5727, or Staff Sergeant McClain at DSN 691-4248 or Commercial 719-526-4248; or write to Commander, 4th ID(M), ATTN: AFZC-GS-ASP, Fort Carson, CO 80913-5000.

II CORPS EQUIPMENT

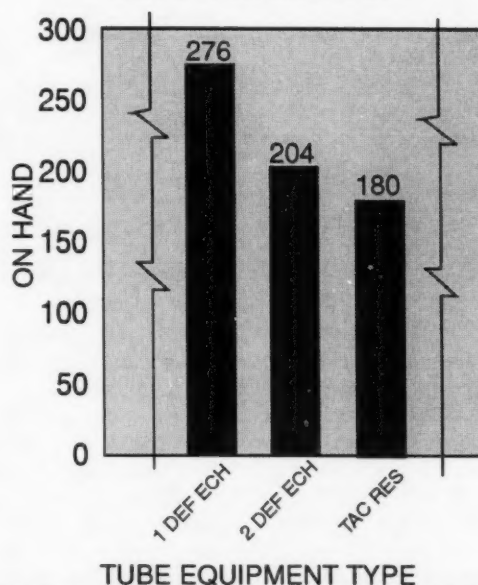


Figure 5. BDA by echelon after importation into graphics program from spreadsheet.

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LESSONS FROM CUBA'S REVOLUTIONS



by Sergeant Eliot A. Jardines, USAR

Intelligence professionals must consider the lessons of history. What follows are examples from past United States-Cuban relations which offer the intelligence analyst salient lessons on the importance of incorporating an understanding of culture and history into analysis.

For the past 200 years, the United States and its military have largely misunderstood or ignored the intricacies of culture and the lessons of history. Only by understanding and effectively manipulating both of these elements can we break the cycle of overlooking native cultures and repeating past mistakes.

The triumph of the Cuban Revolution in 1959 signaled the beginning of a state of antagonism between the United States and the regime of Fidel Castro. This antagonism followed on the heels of faulty analysis which resulted in policies that achieved exactly the opposite of their intended effect. The fact that the Castro regime has endured for 35 years is one of the best examples of what happens when analysts ignore the role culture and history play in international relations. When tasked with analyzing the Cuban situation, many analysts have shown an ignorance of the history of U.S. intervention in Cuba.

The U.S. Role

Between 1868 and 1878, nationalist Cubans fought the bloody "Ten Years War" against Spain for their independence. The protracted rebellion was eventually put down, but surged up again in 1895 and continued in bloody stalemate for three years.

Fueled by a policy of expansionism, the United States declared war on Spain and within seven months had won "independence" for Cuba. Teddy Roosevelt's "splendid little war" had gained independence for Cuba, but only on America's terms.¹

The United States quickly disbanded the Cuban rebels and coerced the Cuban government into amending its constitution. The Platt Amendment allowed the United States to control the Cuban economy, veto any international agreements, and intervene in domestic politics.² Until 1934, many Cubans believed they had traded one colonial master for another.

An overwhelming desire to forge their own destiny fostered a strong sense of nationalism in the Cuban people. This led to disdain for the United States. Cuban feelings regarding this period of false independence would be effectively exploited 25 years later by the regime of Fidel Castro to instill fear of U.S. intervention and aggression.

Following the abrogation of the Platt Amendment and a revolt by army enlisted men, the country was dominated for the next 25 years by the man who led that revolt—then army Sergeant Fulgencio Batista. Batista held absolute dictatorial powers until the triumph of the communist revolution in 1959. Let us look at the events which led up to the 1 January 1959 revolution.

Guerrilla Warfare

Fidel Castro—along with his brother Raul, Ernesto "Che" Guevara, and others—had been fighting in the Sierra Maestra Mountains in eastern Cuba since 1956. During that time Fidel Castro's rebel

group—the M-26-7 or the 26th of July Movement—had slowly begun to consolidate its power in the east, waging guerrilla warfare against Batista's increasingly disenfranchised military.³ By mid-1958, the Cuban military was decimated, having suffered defeat after humiliating defeat. They could not win against the unfamiliar tactics of guerrilla warfare and were forced to operate in largely unfamiliar terrain.

By now, in the eyes of the Cuban people, the Cuban officers had been stripped of any legitimacy. At the same time, through propaganda and persistence, the rebels had attained the moral high ground. The M-26-7 was able to manipulate international public opinion by using Herbert Mathews, a reporter for the *New York Times*, as their spokesman. So successful was this manipulation that arms sales to the Cuban military were virtually cut off.

In spite of the reality of the Cuban military situation, on 24 November 1958 when the Director of Central Intelligence, Allen Dulles, submitted **Special National Intelligence Estimate Number 85-58**,⁴ U.S. analysts stated rather forcefully that the only institution capable of controlling the Cuban situation was the Cuban military. The estimate states: "The Cuban armed forces remain, however, the most important element capable of breaking the political deadlock, by deposing the regime and establishing a junta."⁵

Looking back, this estimate reveals much about U.S. analysts from all branches of DOD, the CIA, the State Department, and the National Security Agency. That they could have misread the situation so completely is astonishing in light of the reality of Cuba's military at that time.

Perhaps, this can best be explained in terms of culture. The U.S. military enjoys a strong sense of support and legitimacy from the American people. Therefore, most U.S. analysts erroneously assumed this to be true for the rest of the world. However, this was not the case in Cuba in 1958.

It is important to note that there are some considerations which must be addressed when trying to discern history lessons. It is important to realize that events are not played out in a vacuum, but rather in conjunction with other events throughout the world. One explanation for such an enormous miscalculation, however, may be the limited number of analysts and resources dedicated to Cuba in 1958. In addition, events in Germany and Eastern Europe may have overshadowed our concern over the Cuban situation.

Although this may mitigate to some degree the analytical failure in Cuba, intelligence professionals have never had the luxury of unlimited time and resources. In fact, today's analyst is constrained to a

even greater degree as resources shrink and regional instabilities increase; especially at a time when technological advances require even more rapid and accurate analysis.

A History and Culture Void

However, one central issue remains—our lack of knowledge about foreign history and cultures. Had analysts adequately understood Cuban history and culture, common sense would have alerted them to the fact that the Cuban military was in no position to "run with the ball."

During October and November 1958, it appeared the Cuban military had thrown in the towel. Cuban officers frequently surrendered their entire units to rebel groups they out-gunned and out-manned 3 to 1. By the end of the first week of 1959, the Cuban military had already dissolved. Ex-soldiers burned their uniforms and went into hiding.

In retrospect, it seems inconceivable that only five weeks before, U.S. analysts indicated the Cuban military could be relied upon for a solution. This demonstrates the danger of imposing one's own culture onto the culture of another country when analyzing that country's military force.

As long as the intelligence community continues to ignore history, it will be destined to repeat its own mistakes.

The Cuban military realized it was unable to take control of the geographical area in which it was committed and, therefore, avoided anything but a defensive posture. The morale, esprit, health, discipline, and political reliability (or belief in the cause for which they fought) were poor or nonexistent. Thus, Batista and the Cuban high command defeated the Cuban military before the fight had even begun.

Granted, MI analysts did not have our current **FM 34-3, Intelligence Analysis**, which lists order of battle factors. However, even this field manual contains no magic equation that can make-up for ignorance of the situation. Now we have excellent doctrine and analytical tools, not available in 1958, to assist in dealing with insurgencies. However, the key is not that MI analysts did not have our most current field manual, but rather that they did not understand the Cuban reality, and subsequently misinterpreted the situation totally.

A Uniquely Cuban Problem

U.S. analysts tried to impose an American solution onto a uniquely Cuban problem. They believed

that Castro and the M-26-7 could be persuaded to join a "third party" junta government. The intelligence estimate states:

On the other hand, if the junta desired to end civil strife quickly, it would probably have to open direct negotiations with Castro. The latter's decision to come out of the hills would depend on the junta's ability to convince him that he and his men would be safe from reprisals and that they would be able to take an active role in national political life.⁶

Once again the intelligence estimate reveals an ignorance of Cuba's history and culture. Although political co-optation is the rule of thumb in Latin American countries like Mexico and Venezuela, it was not a viable option in the Cuban socio-political system by the late 1950s. From the very beginning, Cuban politics was largely devoid of centrist or "third party" influences. Intolerance of dissenting opinions was the rule of thumb for the Cuban political scene, with political leaders often willing to commit suicide just to prove a point.

The iron-fisted rules of the Machado and Batista regimes encouraged this polarization further. Clearly, there would be no "third party" junta bringing stability to the Cuban situation; in fact, it would bring just the opposite.

Finally, the intelligence estimate makes eight comparisons between Cuba and Venezuela in its five short pages.⁷ This is a recurring mistake that analysts dealing with Latin America make. It seems that we need to pigeon-hole a country or situation into the confines of a situation we have already dealt with. This is usually done with little or no regard for the subtleties and nuances unique to each country or situation. These ill-fitting comparisons have cost the United States dearly in Latin America and especially in its dealings with Cuba.

Again, comparing Cuba to Venezuela is a mistake often repeated in our assessment of the revolution. What did Cuba and Venezuela have in common in 1958? The answer is nothing, except that the American intelligence community wanted to establish a military junta government in Cuba as it had done recently in Venezuela.

Unlike the Venezuelan military, the Cuban military was in shambles. United States analysts would commit the same mistake two years down the road, during the Kennedy Administration. Our intelligence community believed the Castro regime could be overthrown as easily as the Arbenz government had been in Guatemala in 1954. The disastrous Bay of Pigs fiasco proved how dangerous this kind of analysis can be.

As long as the intelligence community continues to ignore history, it will be destined to repeat its own

mistakes. No analytical task should be undertaken without a thorough understanding of the history and culture of the region.

On paper at least, we appear to be making strides to rectify our past blindness. FM 34-3 states: "If a single term best describes the factors that interfere with successful analytic thinking, it is bias."⁸ The field manual further states:

Cultural biases begin forming at an early age and continue throughout a lifetime. They interfere with the ability to think in the same manner as the enemy. Analysts need considerable background information on culture and social mores to perceive a situation in the same way the enemy perceives it. If analysts do not have this experience or information and decide to depend upon their own values when looking at a situation, the analysis is likely to be wrong. The reason for this is that different cultures tend to view similar situations differently.⁹

Perhaps this was best summed up by James Reston, dean of U.S. political commentators, when he said: "The U.S. will do anything for Latin America, except read about it." Our reluctance to further our own professional development has cost us many lives in the past. We cannot deal effectively with a problem if we only understand half of it.

Basic trainees are taught to "stay alert; stay alive." However, we intelligence analysts have a greater responsibility. We must always stay alert so others can stay alive. As members of the intelligence branch, we are the "force multiplier." However, if we fail to take our responsibility seriously we will be a "force divider" with tragic consequences. Let us endeavor to learn from our mistakes and not repeat them.

Endnotes

1. Thomas E. Skidmore and Peter H. Smith, *Modern Latin America*, Oxford University Press, New York, 1989, 249.

2. *Ibid.*, 250.

3. The name "26th of July Movement" originated from a failed attack on the Mocada military barracks and hospital on 26 July 1953 by Fidel Castro and 165 of his followers. Fidel was subsequently captured and jailed, from whence he wrote his famous *History Will Absolve Me* text.

4. Declassified Special National Intelligence Estimate Number 85-58 dated 24 November 1958, entitled "The Situation in Cuba," declassified 21 October 1983.

5. *Ibid.*, 1, 5.

6. *Ibid.*, 5.

7. *Ibid.*, 2 through 5.

8. FM 34-3, *Intelligence Analysis*, Chapter 5, Analysis in Depth, 5-11.

9. *Ibid.*

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Seamless Intelligence Operations Between the Division TAC and Main

by Captain Natalie G. Lee

The maps are up, overlays are stacked, communications checks are complete; FM radios—green, Mobile Subscriber Equipment (MSE)—green, master control station (MCS)—green, All-Source Analysis System-Warrior (ASAS-W)—green.

The ASAS-W is an automated intelligence dissemination and processing system linked to the ASAS. It allows the division to share a common battlefield picture simultaneously.

The futuristic vision of seamless intelligence operations has become a reality. Before deployment, ASAS-W system operators clear the data bases of old information, upload addresses, and build initial overlays. Once at the field site, the system is set up next to the assistant division commander (maneuver) (ADC[M]) and his map. Operators install and check communications lines and complete the overlays. We are ready; let the Warfighter begin!

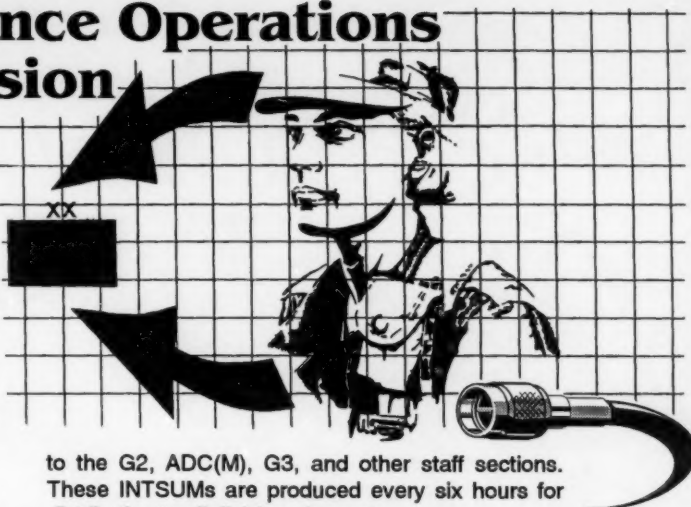
The exercise kicks off and intelligence collection, processing, and analysis initiates. Operations personnel plot enemy locations on the ASAS-W as well as on the map. S2 personnel move and update these elements as necessary to maintain a comprehensive picture of the battlefield. Three hours into the exercise, and every three hours thereafter, the close battle picture is "frozen."

The G2 shift officer writes a short statement with an assessment or prediction for the next three hours. The statement is added as a label to the "frozen" picture and is saved as an overlay. The overlay is then exported to the G2 division main (DMAIN) as a periodic intelligence report (PERINTREP).

Meanwhile, brigades send their current pictures of the battlefield—both friendly and enemy—to the division tactical command post (DTAC) via the ASAS-W. These overlays are displayed and compared side by side with the latest picture on the DTAC ASAS-W. As questions arise, S2s will send E-mail or open a talk window. The engineer S2 sends an obstacle overlay.

Maneuver units send copies of their reconnaissance and surveillance (R&S) plans as overlays via the ASAS-W. Other graphics are traded back and forth as required.

Six hours into the exercise, the G2 DMAIN sends out the first intelligence summary (INTSUM) as both a graphic and written statement via ASAS-W. The graphic is displayed next to the current picture and the file is printed out with copies provided



to the G2, ADC(M), G3, and other staff sections. These INTSUMs are produced every six hours for distribution to all division elements.

Every 30 minutes or less, the ASAS-W operator plots or browses through the latest imagery data base for recent acquisitions by the division's unmanned aerial vehicles (UAVs). The UAVs identify specific elements which are then plotted and analyzed to help "read" the close battle.

Items meeting the high value target or ADC(M)'s targeting criteria are passed to the fire support element for targeting (or verification of targeting by the DMAIN or brigades). Additionally, system operators check the other data bases (signals intelligence, electronic intelligence, and SALUTE) for recent reports.

Phase I is completed and the operation moves into Phase II. However, there are a few changes to the scheme of maneuver. An "Xtalk" window from DMAIN appears on the ASAS-W: the commanding general wants to "chalktalk" using his "John Madden" pen. The ASAS-W operator joins the "collage" (normally a map with the appropriate graphics and expected or known enemy situation already displayed) sent by the DMAIN.

The MSE phone rings for the ADC(M), and the "chalktalk" begins. The ADC(M) sits in front of the ASAS-W (as do the brigade commanders in their tactical operations centers [TOCs]) and the commanding general explains his plan via the MSE conference call, illustrating points using the ASAS-W collage. Commanders and the ADC(M) can visually clarify questions and comments by drawing on the collage. When the conference call is complete, the ASAS-W operator saves the collage for future reference and closes the session. It's time to get a PERINTREP out.

"Ma'am, we just received a surface-to-surface missile (SSM) alert."

The ASAS-W operator has set alarms to activate

(Continued on page 48)

Concepts: Army Intelligence Support to JTF Operations

by Lieutenant Colonel Robert E. Hallagan

While standing Joint Task Forces (JTFs) exist in all theaters, JTFs are normally formed in response to contingency missions conducted across the scope of military operations. These missions often involve the use of U.S. Armed Forces either to achieve national objectives or to protect national interests. National Command Authorities (NCAs) usually direct these operations in response to a crisis or an emergency. These contingency operations garner intense interest from our military leadership and worldwide media. Contingency operations may be terminated in their own right or evolve into sustained military operations.¹

Roles and Functions

Army intelligence forces have been designed, manned, equipped, and trained to conduct a wide range of operations. For intelligence planning purposes, we anticipate supporting an Army (corps or division) headquarters in the role of Headquarters Army Forces (ARFOR) or Headquarters Joint Force Land Component Commander (JFLCC). Another role is as the JTF Headquarters itself. In the last two instances, the headquarters will require substantial augmentation to fulfill its joint warfighting role.

The Chairman, Joint Chiefs of Staff (CJCS) Warning Order contains guidance to the combat commander and subordinate commanders. It is usually the most influential factor concerning JTF contingency operations. This guidance covers areas of concern to the NCA and provides an overview of the context within which military action will take place.

The Commander's Estimate reflects the combat commander's analysis of the various courses of action (COAs) that may be used. The Commander's Estimate determines the—

- ☐ Scope, type, and probable duration of recommended contingency operations.
- ☐ Forces likely to be involved.
- ☐ Potential logistic and intelligence effort required to successfully plan and execute the recommended COA.²

Intelligence Readiness

In a JTF force projection operation, current situation tactical intelligence will come largely from the "top" down until the ground force closes. The Army unit has a responsibility in peacetime to develop as much of the encyclopedic data on their contingency areas as possible, then preplan and practice this intelligence surge for crises. Whenever possible, this should be the modus operandi for day-to-day operations. The worst solution is to form ad hoc intelligence links and networks at the onset of a crisis.

The JTF J2 is the conduit for requests by subordinate service component forces for intelligence support in the theater. Those requests, and the resulting reports, must be focused down to the needs of the tactical commander. The J2 should request multiple echelon and broadcast dissemination of intelligence to help ensure near-real-time reporting to all deployed, in-transit, or preparing-to-deploy forces. The combatant commander will request direct support elements from national agencies (National Intelligence Support Teams). He should collocate them forward with the JTF, ARFOR, or JFLCC headquarters to further facilitate the rapid and thorough dissemination of intelligence.³

Establishing the optimum intelligence support to a JTF operation, or range of operations, may be second only to developing clear guidance for the conduct of the operation itself. The commander must set priorities on mission needs. This presupposes discipline in the development of priority requirements and force sequencing.⁴

Organizations

Joint Force operations place a premium on flexibility and interoperability. They also require that the links between echelons above corps (EAC) and below must be concretely established during peacetime.

The future for Army Intelligence support to JTF operations is embodied in our Force Design Update. This process sharpened the focus and improved synchronization of intelligence support; specific emphasis was placed on the context of joint and combined operations.

Intelligence and Security Command (INSCOM) structures and responsibilities were reshaped to accommodate a tailored Army EAC MI forward presence in Europe, Latin America, and the Pacific. The residual structure will be incorporated into MI Force Projection Brigades, identified for deployment from CONUS. INSCOM units and activities are the primary bridge between Army and Joint Forces, and between echelons above and below corps within the Army.⁵

INSCOM units which perform national signals intelligence (SIGINT) functions were restructured from conventional overseas line-of-sight and high frequency (HF) collection into jointly manned units at locations which provide unconventional access to signals. Army national SIGINT responsibilities will include management of regional SIGINT operating centers, and Army support to the National Security Agency and its worldwide mission. The technical control and analysis element at Fort Meade leads the Army's SIGINT exploitation capability in support of service requirements in joint operations—particularly foreign ground forces electronic order of battle and preparation for deployment.

The Army's departmental human intelligence (HUMINT) and counterintelligence (CI) functions will be integrated into joint warfighting. This will be achieved by melding Army and other service resources into the Defense HUMINT Service and creating the Army Foreign CI Activity. These organizations will have comprehensive responsibility for conducting operations within the theater in support of the JTF and ARFOR.

There is a continuing intelligence requirement for foreign ground forces exploitation to support enhanced threat training for mobilization and deployment. This has resulted in the restructure of the Army Intelligence Threat Analysis Center and the Army Foreign Science and Technology Center into the National Ground Intelligence Center (NGIC). The NGIC will operate functionally under the Defense Intelligence Agency along with the National Maritime Intelligence Center and the National Aerospace Intelligence Center.

These service entities will be the centers of expertise constituting the National MI Production Center. The NGIC will provide general military intelligence to foreign ground forces and scientific and technical intelligence to the JTF from a consolidated perspective.

Control of analytical and imagery military manpower will transfer to the ARFOR Command. This will greatly enhance intelligence and warfighting support in crisis, and warfighting support to early deploying forces from the United States.

The Army's Joint Military Intelligence Support Elements (JMISE), operationally controlled today as the Army contribution to theater Joint Intelligence Centers, will be transferred to the Unified and Specified commands they support. This transfer will not preclude the MI Force Projection Brigades from supporting a JTF with foreign ground force expertise on a task-organized basis.

The Corps MI Support Element (CMISE) is the day-to-day working bridge between the corps and associated theater MI brigades. The CMISE reinforces the organic analytical capability of the corps and directly supports the corps when it serves as the JFLCC or JTF Headquarters.

One of the first tailored intelligence assets to deploy is the Deployable Intelligence Support Element (DISE). The DISE is tactically tailored from the MI units allocated to the force. It may combine EAC and echelons corps and below assets. The mission of the DISE is to provide the deploying ARFOR or JFLCC commander continuous and timely intelligence from the fixed base.

The employment of all these organizations (organic and supporting) must be practiced often, if not daily, in peacetime by Army corps and divisions to refine force tailoring procedures, force sequencing, communications connectivity, and habitual support relationships. Maintaining habitual peacetime support relationships and accesses allows contingency units to pull from their "normal" intelligence sources and reduces the probability of intelligence shortfalls which could result from ad hoc relationships.⁶

Training and Leader Development

Training in this environment requires integration of battle command, intelligence, and logistic systems so that commanders and their support teams are trained consistently whether in live or simulation exercises. The intelligence staff's role changes from preparation of routine reports, briefings, and processes to synthesizing information and anticipating future requirements. The combat commander must develop the personal skills to envision the battlefield and the enemy himself, and place all of it in the context of what must be accomplished. He or she must be able to ask the right questions, to demand the right information, and to come to the right decision.⁷

Summary

- ☐ No matter the mission—from relief support to use of force—ensure you are part of the planning process and not just responding to queries when asked.
- ☐ In concert with the combat command J2 and J6, ensure all communications requirements,

especially imagery, are surfaced at the onset.

- ☐ In concert with the combat command J2 and J4, ensure your lift requirements for high priority personnel and material are known.
- ☐ Identify mapping, charting, and geodesy objectives.
- ☐ Develop and implement plans to incorporate Army CI and HUMINT capabilities into the operation.
- ☐ Examine your staff's strengths and weaknesses. Do not hesitate to augment your staff.
- ☐ Reach an agreement with the combat command J3 on the use of the Focal Point system and other special access programs.
- ☐ Establish and maintain *continuous dialog* with the J2 and component G2, N2 (Navy G2), and

IN (Air Force G2).⁸

Endnotes

1. May 1992 Final Draft Joint Publication 3-00.1, *Joint Doctrine for Contingency Operations*, I-1.
2. Ibid, II-1.
3. Ibid, II-14, II-15.
4. MG John F. Stewart, Jr., 14 Dec 92 presentation to the Army War College, "Intelligence in a Campaign: Desert Storm and Beyond."
5. HQDA ODCSINT, April 93, "Army Intelligence in Transition—Changing Horizons."
6. FM 34-1, *Intelligence and Electronic Warfare Operations*, 1-8.
7. Army Battle Command Laboratory, *Battle Command Concept* (Draft).
8. Joint Publication 2-01, *Intelligence Tactics, Techniques, and Procedures for Joint Operations*, Appendix A.

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Doctrine: To Support Worldwide Intelligence Operations

by James J. Adams

As the branch proponent for MI, the U.S. Army Intelligence Center commander must implement and execute MI doctrinal development responsibilities of both the U.S. Army Intelligence Center and the U.S. Army Training and Doctrine Command. The Doctrine and Publications Division of the Directorate of Operations, Training, and Doctrine leads the doctrine development effort for the commander. Subject matter experts within the Intelligence Center and from field units provide support.

The lead action elements in the Doctrine and Publications Division are the two branches: Doctrinal Literature and Production. The Doctrinal Literature Branch provides writing and subject matter expertise. The Production Branch provides editing, design and formatting expertise. The two branches interact to produce the doctrine needed to support worldwide intelligence operations.

Publications

Doctrinal and training publications have an established hierarchy for design, development, integration, and promulgation. The hierarchy aligns these publications with the needs of the target audience and helps trainers and soldiers identify the publication most relevant to their needs. Thus, the publications hierarchy serves both managers and developers of MI doctrinal and training literature, as well as users of these publications.

There are four levels of MI doctrinal manuals:

- ☐ Capstone.
- ☐ Echelon.

- ☐ Echelon-type special operations.
- ☐ Reference.

Capstone Manual

FM 34-1, *Intelligence and Electronic Warfare Operations*, provides the Army's capstone doctrine for IEW operations. It describes the intelligence battlefield operating system, and how the commander drives it for intelligence and EW support in force projections operations and operations other than war. It expands the MI doctrinal tenets in FM 100-5, *Operations*, and establishes the doctrinal principles for all follow-on MI doctrine and TTP.

Echelon Manuals

These manuals describe doctrinal principles, tactics, techniques, and procedures (TTP) for a specific echelon.

- ☐ FM 34-10, *Division IEW Operations*.
- ☐ FM 34-25, *Corps IEW Operations*.
- ☐ FM 34-37, *EAC IEW Operations*.
- ☐ FM 34-80, *Brigade/Battalion IEW Operations*.

The subset manuals that provide additional doctrine and TTP for each echelon manual are—

- ☐ FM 34-10, *Division IEW Operations*.
- ☐ FM 34-10-1, *TTP for REMBASS*.
- ☐ FM 34-10-2, *IEW Systems*.
- ☐ FM 34-10-3, *TRAILBLAZER Operations*.
- ☐ FM 34-10-7, *QUICKFIX Operations*.
- ☐ FM 34-10-13, *Technical Control and Analysis Center*.
- ☐ FM 34-10-15, *TROJAN AN/FSQ-144(V)*.
- ☐ FM 34-25, *Corps IEW Operations*.

- ☐ FM 34-25-1, Joint STARS.
- ☐ FM 34-25-2, Unmanned Aerial Vehicles.
- ☐ FM 34-25-3, ASAS and the ACE.
- ☐ FM 34-25-7, Special Electronic Mission Aircraft Survivability.

Echelon-Type Special Operations Manuals

The manuals that provide MI doctrine for echelon-type special operations are—

- ☐ FM 34-7, IEW Support to LIC.
- ☐ FM 34-35, ACR and Separate Brigade IEW Operations.
- ☐ FM 34-36, SOF IEW Operations.

Reference Manuals

MI reference manuals are—

- ☐ FM 34-2, Collection Management and Synchronization Planning.
- ☐ FM 34-2-1, TTP for R&S and Intelligence Support to Counter-reconnaissance.
- ☐ FM 34-3, Intelligence Analysis and Synthesis.
- ☐ FM 34-5, HUMINT and Related CI Operations.
- ☐ FM 34-8, Combat Commander's Handbook.
- ☐ FM 34-13, MI Battalion Leader's Handbook.
- ☐ FM 34-40, Electronic Warfare Operations.
- ☐ FM 34-40-2, Basic Cryptanalysis.
- ☐ FM 34-40-3, Tactical SIGINT Analysis Operations.
- ☐ FM 34-40-5, Voice Intercept Operations.
- ☐ FM 34-40-7, Communications Jamming Handbook.
- ☐ FM 34-40-9, Direction Finding Operations.
- ☐ FM 34-40-12, Morse Code Intercept Operations.
- ☐ FM 34-40-13, Electronic Intelligence Operations.
- ☐ FM 34-52, Intelligence Interrogation.
- ☐ FM 34-54, Battlefield Technical Intelligence.
- ☐ FM 34-60, Counterintelligence.
- ☐ FM 34-81, Weather Support For Army Tactical Operations.
- ☐ FM 34-81-1, Battlefield Weather Effects.
- ☐ FM 34-82, MI Unit Exercise Development Guide.
- ☐ FM 34-85-1, GK Conversion (Mideast).
- ☐ FM 34-130, IPB.
- ☐ FM 90-2A, Electronic Deception.

The training circulars currently fielded will either be purged from the publications systems, included in other manuals, or rescinded.

MI manuals provide doctrine and TTP for com-

manders, staffs, trainers, and field operating personnel. They cover all MI mission areas. For this reason, they are not all listed here.

Definitions of Doctrinal Terms

The terms *doctrine*, *tactics*, *techniques*, *procedures*, *drills*, and *tactical standing operating procedures* are sometimes used interchangeably; however, they have very specific meanings.

Doctrine is composed of the basic principles by which military forces or elements guide their actions in support of national objectives. It is authoritative, but requires judgment in its application.

Tactics are the employment of units in combat. They are the ordered arrangement and maneuver of units in relation to each other and to the enemy to realize their full potential.

Techniques are the general and detailed methods troops or commanders use to perform missions and functions. Specifically, they are the methods of using equipment and personnel. Techniques describe "a way," not "the only way."

Procedures are detailed courses of action that describe how to perform a task.

Drills provide small units with standard procedures essential for building a strong, aggressive force. They provide standardized actions that link soldier and collective tasks at platoon level and below. There are two types of drills that apply to all types of units:

- ☐ *Battle drills* are collective actions a platoon or smaller element executes without applying a deliberate decision-making process. The action is vital to success in combat or critical to preserving life. The drill, initiated on cue (for example, an enemy action or a leader's order), is a trained response to a given stimulus. It requires minimal supervision and is standard throughout similar units in the Army.
- ☐ *Crew drills* are collective actions the crew of a weapon or piece of equipment must perform to use the weapon or equipment successfully in combat or to preserve life. This action is a trained response to a given stimulus such as a leader's order or the status of the weapon or equipment.

Tactical standing operating procedures are sets of instructions covering those features of operations which lend themselves to definite or standardized procedures without loss of effectiveness. The procedures are applicable unless soldiers are ordered otherwise.

Mr. Adams is Chief, Doctrinal Literature Branch, Directorate of Operations, Training, and Doctrine.

TOTAL FORCE



RC MI Restructure

This is the second in a series of **Total Force** columns that focuses on the developing Reserve Component (RC) MI Restructure. The post-Cold War power projection model and reduced defense dollars are forcing us to rethink the way we employ our RC Forces. The recent decision to place all RC combat units in the Army National Guard (ARNG) and concentrate combat support and combat service support to the Active Component (AC) in the U.S. Army Reserve (USAR) also affects our future direction. In response to this changing environment the MI Proponent has undertaken an RC Force Design Update (FDU) which will restructure significant portions of our RC MI Force.

Requirements Driven

Currently, most RC MI units are structured as near mirror images of their AC counterparts, designed to be called up as whole units. This Cold War mechanism is no longer appropriate or affordable in today's strategic environment. The first step in the RC FDU will be to define the requirement for RC MI support. This is being done now by Department of Army, Deputy Chief of Staff for Intelligence, and the MI Proponent.

The future mission for USAR's MI units will be to augment the AC Force, primarily to corps and EAC. Each AC user is being tasked to identify that portion of its total intelligence requirement which cannot be answered by existing AC assets. This shortfall will then drive the RC's MI restructure. The result will be a USAR MI Force built to augment and complement the AC's MI units, not replicate them.

The ARNG's contribution to this effort will be to provide most of the required linguists as well as the MI elements it needs to support its own combat forces. The battalions of the 300th MI Brigade (Linguist), as they are now structured, will answer for the linguists. Currently, however, the MI units supporting the ARNG's combat brigades and divisions are primarily in the USAR. These units will be deactivated in the USAR, and this mission will pass to the ARNG.

RC MI Toolbox

In another significant departure, the RC MI FDU will structure the requirements-derived USAR MI

unit force to a functional modular concept. This is similar to the cellular model already in place in the ARNG linguist battalions. A traditional unit structure will be maintained for peacetime administration, training, retention, and promotion. However, the smallest functional elements or teams within the units will each be assigned a derivative Unit Identification Code (UIC). This will permit teams to be selectively and singularly mobilized exclusive of the parent organization or unit. This "toolbox" approach will allow the AC warfighters to tailor their RC MI augmentation package to suit the anticipated contingency. This emphasis on teams has a number of corollary impacts:

- ☐ The smaller RC elements will be more easily and quickly digested by the AC user.
- ☐ Training will concentrate on the team and section level.
- ☐ Electronic connectivity will become more critical, both for training and tying the RC and AC together.
- ☐ These smaller elements will be more likely to find a place in the Contingency Force Pool.

RC Contributory Intelligence Support

One of the more important elements of the proposed RC MI restructure will assign a portion of the Army's peacetime intelligence mission to the RC. The USAR's MI Detachments (Strategic) (MID[SI]) have contributed directly to this requirement from their inception.

The ARNG's 300th MI Brigade has also been a long-time contributor to our nation's peacetime intelligence mission. However, the rest of the RC's MI force has never been systemically involved in the mission, though many informal AC and RC initiatives have resulted in some outstanding products over the years.

As a result of these ad hoc efforts, the Army Reserve Command has begun a process to formalize and expand the RC contribution. This initiative is currently confined to the USAR, but may be expanded to include the ARNG MI unit force.

The USAR intelligence support effort will be built around existing RC structure, USAR MI units, and the five Regional Training Sites-Intelligence (RTS-I). These training sites now provide collective and enhancement training to USAR and ARNG MI unit

forces. The intelligence support derived from the USAR will be a by-product of this training; RC training and peacetime intelligence mission support to the AC warfighters are to be complementary, not competitive.

Much of the manpower and facility prerequisites needed to address this composite mission are already at the training sites. The concept calls for a small AC augmentation to the assigned Active Guard Reserve (AGR) RTS-I staff. As the training sites assume the new composite mission, they will be redesignated Regional Intelligence Centers (RIC).

These RICs provide a place and mechanism for the RC MI units to do their training and intelligence support mission. The AC and AGR staff will act as liaison between the missioning AC and supporting USAR MI units. They will provide quality control, integrate training and operations, provide continuity, and work actively in planning, preparing, and distributing intelligence products.

One new creation developed under this concept is the Army Reserve MI Support Element (ARMISE). It will be collocated with the FORSCOM Intelligence Center (FIC). The ARMISE will act as the gatekeeper for AC to USAR missioning; validating missions, flowing mission support funding, and coordinating with the RICs. Existing AC to USAR mission relationships will not be impacted, but these taskings must be captured in order to identify residual capacities, determine competencies, and eliminate redundancy.

The final return for this effort will be improved training and readiness, as well as a substantial contribution to the Army's peacetime intelligence mission.

MI Pre-Command Course

The Army Chief of Staff has made attendance at the appropriate branch Pre-Command Course (PCC) mandatory for RC battalion and brigade commanders before they assume command. The U.S.

Army Intelligence Center conducts the two-week MI PCC in several iterations each year. Typically, 4 of 16 seats in each class are reserved for RC soldiers. In addition to RC MI battalion and brigade commanders, the course has also been open to RC combat division G2s.

The course is designed to prepare MI leaders for the challenges they will face as field grade commanders. There is a parallel Pre-Assignment Course designed for sergeants major that is typically taught in tandem with the PCC. Commanders and their sergeants major are encouraged to attend these courses at the same time.

Class designation is MI Pre-Command Course (2G-F41). Participants must enroll through the Army Training Requirements and Resource System. ARNG officers may contact their state training offices. USAR applicants should use their chain of command to contact the USAR Command or other MACOM as appropriate. The ultimate routing is to HQDA, ATTN: DAAR-OP-IT, Washington, DC 20310-2418.

Class 95-02 report date is 10 Oct 94, end date is 21 Oct 94; Class 95-05 report date is 30 Jan 95, end date is 10 Feb 95; Class 95-08 report date is 24 Apr 95, end date is 5 May 95.

POC at USAIC&FH is Mr. Ken Welsh, DSN 879-0750 or Commercial 602-538-0750.

RC Training Advisor

Captain Tom Bergfeld has assumed the position of the U.S. Army Intelligence Center's RC staff officer and training coordinator. He is available to answer questions on RC training and military education. He is also the interface between the MI Proponent and the 5th Army Reserve Forces-Intelligence Schools. Captain Bergfeld may be contacted at DSN 821-2085 or Commercial 602-533-2085.

COL John Craig is Chief, Reserve Forces Office. LTC Dave Miner is ARNG advisor. Their numbers are DSN 821-1176/1177 or Commercial 602-533-1176/1177. FAX is DSN 821-1762 or Commercial 602-533-1762.

MI BULLETIN BOARD SERVICE (MIBBS)

The Military Intelligence Bulletin Board Service (MIBBS), a source of information about MI professional issues, is on line for access. It also allows you to access Office of the Chief, Military Intelligence (OCMI) personnel, if you do not otherwise have Defense Data Network (DDN) E-Mail or PROFS available to you.

Initially, the MIBBS focuses on enlisted issues. MI warrant and commissioned officer issues will be added in the near future.

To access the MIBBS, set your modem to E-7-1. Our modem will accept 1200, 2400, or 9600 BAUD settings. The MIBBS number is DSN 821-5635 or Commercial

602-533-5635. If you are using PROCOM V2.4.2 as your communications software, make sure the following settings are in effect: The CR translation (IN) is set to "CRLF"; the line wrap is set to "on"; The scroll is set to "on."

The MIBBS will be available 24 hours a day; however, assistance will be available only from 0730 to 1630 (MST), Monday through Friday.

Point of contact for the MIBBS is the Office of the Chief, Military Intelligence, Sergeant Major Malcolm V. Replogle, DSN 821-1174 or Commercial 602-533-1174; or Master Sergeant Craig King, DSN 821-1184 or Commercial 602-533-1184.

MI CORPS HALL OF FAME

by Sergeant First Class Gene E. Miller

This article commemorates the 50th Anniversary of World War II's Operation Overlord, the Allied invasion of France, which culminated in the defeat of Adolf Hitler and Nazi Germany. It was adapted from an article written by Lawrence J. Cerri for Army Magazine in February 1988.

History credits Generals Eisenhower, Montgomery, Bradley, Patton, and others with the Allied victory in France and the eventual defeat of Germany. Yet, their success is owed in part to many unsung heroes whose exploits are not recounted in history books or motion pictures. Virginia Hall was one such hero.

Who Was Virginia Hall?

To Colonel Heinz Jost, head of the German Gestapo in France, she was the despised "Aremis" whom he placed at the top of the Gestapo's most wanted list. To the partisans of the French underground and the French Forces of the Interior (FFI), she was Marcella Montagne, a clerk from Paris who immeasurably aided the Allied war effort.

To the hundreds of downed Allied bomber crew members rescued by the French underground, she was the "Incredible Limping Lady." To the United States Office of Strategic Services (OSS) and the British Special Operations Executive (SOE), she was the frail, petite woman with a wooden leg whose six-year exploits against the Germans in France are legend. Virginia Hall was a radio operator, saboteur, and an FFI leader. She worked underground in Nazi occupied Germany for the OSS and SOE and was one of their most effective intelligence operatives.

Born in Baltimore on 6 April 1906, she studied at New York's Barnard College and the Vienna Academy of Arts in Europe. In the 1930s, she worked at the U.S. Embassy in Poland and other diplomatic missions in Italy and Estonia.

After losing a leg in a hunting accident in 1935, she returned to the United States to report for the **Baltimore Sun**. Shortly before the war broke out in Europe, the newspaper stationed Hall in Paris as its overseas correspondent.

When war broke out, Hall, who had come to despise Hitler and Nazi Germany, left her post as



Virginia Hall

overseas correspondent to join a French ambulance unit. When France fell to the Germans, she fled to Spain. Here she met Captain George Bellows of the British SOE who organized, armed, and directed French guerrillas. Bellows sensed Hall's contempt for the Nazis. This, and her fluency in several languages, qualified her for recruitment into the SOE.

Hall assumed the identity of Marcella Montagne and returned to France as a member of the French underground. From the start of the war until 1943, she sent radio messages back to London regarding German activities. Despite being handicapped by a pronounced limp, she led sabotage raids against German military installations throughout France. She helped to establish the underground network through which downed Allied crewmen were rescued and funnelled back to Allied territory.

The German Gestapo in France, headed by Colonel Jost, obtained a description of Hall from a French collaborator. Jost distributed a sketch of Hall throughout France, saying: "The woman who limps is one of the most dangerous Allied agents in France and we must find and destroy her." With her capture imminent, the SOE recalled Hall to London in mid-1943.

By this time, Allied plans for the invasion of Europe were well on their way. Commanded by Ma-

for General William J. Donovan, the OSS would play a significant part in planning and executing Operation Overlord.

Operation Heckler was the name of the mission given to the OSS. Donovan's task was to emplace in France "agents who could cause enough problems for the Germans to hamper their military operations during the D-Day landings and the projected battle for France." Although Donovan knew of Hall's previous activities in France, he was reluctant to accept her as a volunteer. Donovan knew that Hall possessed all the qualifications needed for Operation Heckler, but he considered her "too delicate to survive the harsh life of a secret agent who might often be on the run and thus needed to be robust and agile."

Captain Bellows and other SOE operatives who had worked directly with Hall convinced Donovan to look beyond Hall's physical handicap. Bellows told Donovan: "Her courage and enthusiasm are of the highest order. She never on any occasion allowed her handicap to interfere with her work." Finally, Donovan was convinced and selected Hall for Operation Heckler.

After Hall returned to France, a French underground unit spirited her to the village of Nievre. From here she acted as liaison between London and the FFI. Using encrypted radio messages, she gave the OSS in London information on German order of battle. Hall and other clandestine agents supplied Donovan with vital information on German de-

fenses along the French coast.

Allied troops encountered stiff German resistance when they hit the Normandy beaches on 6 June 1944. Hall organized three FFI combat battalions to harass and sabotage German reinforcements. Hall and her sabotage teams are credited with destroying key ammunition dumps and German supply routes. In two such operations, Hall and her units were credited with destroying 38 vehicles, killing 285 German soldiers, and capturing 500 more.

Later that year, Hall supplied information on the disposition, movements, and activities of the German 7th Army. This information enabled the United States 12th Army Group to kill or capture over 100,000 Germans, and thus secure the liberation of Paris.

For her contributions, Hall reluctantly accepted the Distinguished Service Cross in a private ceremony in General Donovan's office—a distinction rarely bestowed upon civilians.

After World War II, Hall worked briefly for the Voice of America and then for the CIA until her retirement in 1972. She died in 1982 at the age of 77.

In 1988, Virginia Hall was inducted as one of the first members of the MI Hall of Fame for her significant contribution to U.S. Army Intelligence.

SFC Miller is a Career Management NCO in the Office, Chief of MI, U.S. Army Intelligence Center and Fort Huachuca.

MI Corps Hall of Fame *Inductees*

On 1 July 1994, the 111th MI Brigade inducted seven new members into the MI Corps Hall of Fame. One of these members, Retired CSM David P. Klehn, was also appointed Honorary Sergeant Major of the MI Corps. Another Hall of Fame member, retired LTG Phillip B. Davidson, Jr., was appointed Honorary Colonel of the MI Corps.

The Hall of Fame was created in 1988 to commemorate MI Corps soldiers and civilians who have dedicated their lives and careers to the defense of our country. The 1994 Hall of Fame activities included a welcome briefing and demonstration, the induction ceremony followed by a luncheon, the MI Ball, and a tour of the post.

Ceremonies also included the dedication of four

new buildings in the new academic complex: the Virginia Hall Dining Facility, Willoughby Barracks, Kapp Barracks, and Sherr Barracks.

The following individuals were inducted during the 1994 MI Corps Hall of Fame ceremonies:

LTG (Ret) Phillip B. Davidson, Jr. Honorary Colonel, MI Corps

LTG Davidson has a long and distinguished MI career. In 1942, he was the Assistant G2, 96th ID. Later, during World War II, he served as a squadron commander and regimental executive officer in the 3rd Cavalry Reconnaissance Group (Mech) in General Patton's Third Army. After World War II, he taught at the School of Intelligence at the Command and General Staff College, Fort Leavenworth.

In 1948, General Davidson became chief of the Plans and Estimates Branch in General Douglas MacArthur's G2 section, holding this position throughout the Korean War. In 1963, LTG Davidson became the commandant of the Army Security Agency (ASA) Training Center and School at Fort Devens. Two years later, he served as G2, U.S. Army, Pacific, and from 1967 to 1969 he was J2, Military Assistance Command in Vietnam.

General Davidson was the first officer from the MI Corps to be promoted to the flag rank of general. He was appointed Assistant Chief of Staff, Intelligence (ACSI) on the DA staff, and Deputy Assistant Secretary of Defense for Intelligence from 1971 to 1974. For his dedicated and distinguished service in intelligence, LTG Davidson has been selected as the Honorary Colonel of the MI Corps.

CSM (Ret) David P. Klehn
Honorary Sergeant Major, MI Corps

CSM Klehn's distinguished career spanned 30 years, with 19 years of MI service. As a CI agent, CSM Klehn was selected to develop the first sensitive area vulnerability estimates on Nike Hercules units at Fort Richardson, Alaska, and Dugway Proving Grounds, Utah. His recommendations resulted in improved security operations within these special units and were included in Army doctrinal manuals.

In 1979, he was selected to debrief two of the first 13 hostages released from the U.S. Embassy in Tehran, Iran. As a result of these debriefings, he provided information that was used to plan rescue missions for the remaining hostages. CSM Klehn served three successive tours as command sergeant major. Until his retirement in 1991, he was the second command sergeant major of the MI Corps.

MG (Ret) Cloyd H. "Mike" Pfister

MG Mike Pfister graduated from Oberlin College, OH, in 1957, and enlisted in the ASA to become a Russian linguist. Two years later, he received his commission from the Infantry Officers Candidate School. As an officer linguist, he was assigned to the 507th ASA Group in Heilbronn, Germany.

From 1960 to 1962, MG Pfister served as operations officer and company commander in the 319th U.S. ASA Battalion, Germany. After serving as ASA's manpower program officer, he was the cryptologic staff officer and deputy branch chief in the National Security Agency from 1964 to 1968. He then served a year in Vietnam as a war plans officer and battalion S3 officer in Saigon.

From 1969 to 1991, MG Pfister served in a variety of assignments including battalion commander, division assistant chief of staff, G2; chief of staff and deputy commandant of the U.S. Army Intelligence

Center and School; director of intelligence, J2, U.S. Central Command; and deputy chief of staff for intelligence for the U.S. Army Europe and 7th Army. He concluded his 36 years of service as the assistant deputy chief of staff, intelligence, HQDA.

COL (Ret) Fredrick W. Johnston III

COL Johnston's 27 years of MI service are marked by positions of great significance. He served two distinguished combat tours in Vietnam as the 3d Corps Tactical Zone II team chief, and the G2 advisor to the Capital Military District and military governor of Saigon. When he returned from Vietnam, he was assigned to the 101st Air Assault Division as a company commander, Deputy G2, and G2 operations officer. In 1976, he served as the American exchange officer to the Joint Reconnaissance Intelligence Center. He was directly responsible for establishing the first Army Command, Control, and Communication Countermeasures (C³CM) office while serving as chief of the intelligence and electronic warfare (IEW) division, C³I directorate from 1980 to 1983.

After a successful battalion command, he became the ASAS manager for TRADOC at Fort Huachuca. In 1987, he assumed command of the 307th MI Brigade at Field Station Kunia, Hawaii, in 1987.

From 1989 until his retirement in 1993, COL Johnston served as the Director of Combat Developments at the U.S. Army Intelligence Center and Fort Huachuca. While serving in that capacity, he designed and obtained approval for the current MI concept. This concept is the road map that will lead the MI Corps into the 21st century.

MW4 (Ret) Robert P. Donohue

MW4 Donohue served seven foreign tours to include Vietnam, Korea, Germany, and Poland. In 1980, he was selected as Chief, Army Attache Support Division, U.S. Army Intelligence and Security Command. He coordinated the selection, training and utilization of all Army enlisted, warrant officers, and officers within the Defense Attache System.

Mr. Donohue served as Warrant Officer Training Manager, Directorate of Training and Doctrine, U.S. Army Intelligence Center and Fort Huachuca from 1984 to 1991. He was responsible for implementing the systems approach to training for all MI warrant officers. Mr. Donohue's 21 years of warrant officer service and over 34 years of total active service have provided a lasting, positive effect on the MI Warrant Officer Corps.

Kenneth T. Koeber

Mr. Koeber entered active duty in 1941, beginning an exceptional 42-year Federal career. After

serving in World War II, Mr. Koeber assumed command of the 2d CI Corps (CIC) Detachment during combat operations in Korea. He was personally selected as executive officer of Task Force Indianhead in 1950.

In 1951, Mr. Koeber, then Major Koeber, assumed command of the 210th CIC Detachment, X Corps. Later that year, he was reassigned to Headquarters, 441st CIC Detachment in Japan to participate in a covert mission which provided security for Japan's prime minister when he travelled to and from the San Francisco Peace Treaty Conference. Mr. Koeber retired from active duty in 1953 as lieutenant colonel, but continued his professional career in MI.

From 1970 to 1983, he served as civilian chief of CI operations in the Far East and operations officer, and director of operations in Japan for the 500th MI Group. Mr. Koeber's numerous achievements have helped integrate HUMINT as a discipline into Army operational planning.

COL (Ret) Charles S. Simerly

COL Simerly's 30-year career includes extraordinary achievements. In 1965, he was the first Army charter member of the 11th Airmobile Division. He helped establish the modern Army aviation unit distance record of 3,780 nautical miles and a flight endurance record of 26 hours, 32 minutes. Two years later, he was the principle Caribou test pilot in a program to develop both low-level extraction and high altitude, low-opening parachute systems.

He authored several publications throughout his military career to include an Army procedures manual on reverse propeller landing operations. These procedures were later used to resupply remote Army units in Vietnam. In 1968, COL Simerly placed

intercept and jamming capabilities on a heliborne EW platform and reduced the reporting time on enemy unit locations from 24 hours to five minutes. This innovative system is known as QUICKFIX.

Eleven years later, he initiated the concept that combined the GUARDRAIL, QUICKLOOK, and CHAALS systems onto one airborne platform called GUARDRAIL Common Sensor. COL Simerly's creative, decisive career significantly enhanced the accuracy, timeliness, and flexibility of MI tactical intelligence and EW systems.

Joseph P. Luongo

Although Mr. Luongo's military service began as an infantryman in the battle of North Africa, his intelligence service began in the Italian campaign in 1944. He was selected and trained for CI operations in the 88th Infantry Division. Mr. Luongo and his eight-man CI team captured, debriefed, and turned over nine NAZI espionage agents.

Mr. Luongo's team was among the first American units to arrive in Rome. Through his efforts, he provided valuable official contacts and clandestine sources which ensured enhanced security for follow-on occupying forces. In March 1947, Mr. Luongo was assigned to the 430th MI Detachment in Austria where he conducted crucial HUMINT clandestine operations as the Cold War intensified.

Mr. Luongo returned to Rome in 1956 to serve as the first MI liaison officer, providing the Commander, U.S. Army Europe with valuable information on the situation within Italy. Mr. Luongo retired after more than 32 years of service to his country and the MI Corps. He is currently writing what he describes as "One Man's History of the MI Career Excepted Program (MICEP)."

MI Corps Hall of Fame Nominations

The Office of the Chief of Military Intelligence (OCMI) accepts nominations throughout the year for the MI Hall of Fame. Anyone can nominate an individual for induction into the MI Hall of Fame. Commissioned officers, warrant officers, enlisted soldiers, or civilians who have served in a U.S. Army intelligence unit or in an intelligence position in the U.S. Army are eligible for nomination.

A nominee must have made a significant contribution to MI which reflects favorably on the MI Corps. In certain isolated instances (particularly in the case of junior soldiers), the nomination may be based on heroic actions rather than other documented contributions.

Nominees cannot be employed by the U.S. Government in any capacity at the time of their nomination. Individuals cannot be self-nominated. An annual Hall of Fame Board convenes to review nominations and to make recommendations to the Chief of Military Intelligence. However, the Chief of Military Intelligence is the final approving authority for inductions into the Hall of Fame.

The OCMI provides information on nomination procedures. If you wish to nominate someone, contact OCMI, U.S. Army Intelligence Center and Fort Huachuca, ATTN: ATZS-MI (CPT Kirby Daras), Fort Huachuca, AZ 85613-6000; or call DSN 821-1180 or 602-533-1180.

PROPONENT NOTES



by Samuel E. Delajoux

The U.S. Army Computer Science School (CSS) provides a wide range of training courses for automation professionals and for those who need specific automation skills to deal with the Army's greater usage of information technology. One such course is the Branch Automation Officer Course (BAOC).

An eight-week course, the BAOB is designed to address combat, combat support, or combat service support branch automation requirements. The course provides training in—

- ☐ Maintenance and operation of hardware and software.
- ☐ Automation architecture fundamentals.
- ☐ Systems planning and acquisition.
- ☐ Automation security.
- ☐ Configuration management.
- ☐ Local area networking.
- ☐ Network technology.

The course employs a hands-on training methodology requiring students to network, operate, and maintain the automation equipment they will use at the unit level. Graduates are fully qualified to per-

form unit-level automation staff duties. Although, to date, most of the students have come from the Signal Corps, personnel from all branches may apply.

The course is designed for Active or Reserve Component Officers (from second lieutenant to lieutenant colonel). However, the course is open to warrant officers of any grade, senior enlisted (sergeants first class to master sergeants), and DA civilians (GS-09 and above).

The BAOB Course number is 7E-S14H-7E-F40. To register, contact the Army Training Requirement and Resources System (ATRRS). If your unit does not have access to ATRRS, contact Ms. Doris Miller at HQDA, DSN 221-3167/3260 or Commercial 703-325-3167/3260.

The only unit costs for the course are for the student's TDY expenses. HQDA may fund the course if the training is in conjunction with a PCS as "TDY en route."

For more information, call Major James Dewitt at the U.S. Army Computer Science School, DSN 780-3298/3236 or Commercial 706-791-3298.

Mr. Delajoux is an Intelligence Specialist with the Office of the Chief of MI.

INTELLIGENCE OPERATIONS

(Continued from page 37)

whenever data is received that meets a specific criteria, such as SSM or chemical unit locations. An alarm event cues the system to put a notice in the middle of the screen to notify the operator. Meanwhile, the ASAS-W continues to receive updates to the data bases, as well as any graphics and files sent in. The operator quickly runs through the overlays to check for new information, as well as the data bases to update his enemy situation overlay.

As the ADC(M) gets ready for the changes to the operation, he needs a three-dimensional picture of the area of operations. It's time to call the terrain team and have them make a silicon graphics image of the area. They develop the picture, send it to the DMAIN, which sends a compressed version to the DTAC. There, we uncompress it and bring it up for display.

The ADC(M) can then stand on the battlefield and get an "on-the-ground" perspective of the terrain before the operation.

The G2 plans section, back at DMAIN, generates a series of overlays depicting the time lines and

expected enemy situations for the contingency plans (CONPLANS) as they develop. When the time draws near to implement the CONPLAN, the G2 plans section initiates a "chalktalk" and an MSE conference call between the G2 DMAIN, DTAC, and brigade and separate battalion S2s. The "chalktalk" players draw the enemy laydown in great detail, as well as the priority intelligence requirements and indicators the G2 is keying on.

Once again, the division's intelligence officers and systems have a common picture and plan. As the exercise continues until termination, the ASAS-W system at the DTAC is fully integrated and plays a key role in the G2 intelligence operating system.

Is this a dream? No. This is how it actually happened during the 2d Armored Division Warfighter in March 1994. It is the implementation of the Intelligence Center vision.

The future has arrived.

CPT Lee is Assistant Operations Officer for the G2, 2d Armored Division. She has served in a variety of positions within the 2d and 5th Mech Divisions and the 108th ADA Brigade.

LETTERS

(Continued from page 4)

have all the basic information a full day in advance of the reporting cable, which I could then FAX or E-mail without any of the restrictions imposed by classification.

Granted, one cannot rely solely upon open sources, but it does provide most of the information needed in a timely manner.

OSINT played a very important role in World War II, when we relied on academics to conduct open research in libraries to learn everything from the locations of major production facilities in Axis territories to discovering which scientists were most likely working on the German atomic bomb project. The Gulf War taught us that the ability to acquire and disseminate information will largely determine who captures and retains the initiative in battle. Automation will soon become an indispensable part of warfare and our ability to capture and retain the initiative in this area will determine our standing as a fighting force in the fast-paced future.

Perhaps some would justify their reluctance to implement automation by citing the cost of such systems. However, reality points to very substantial long-term savings. The Army has already taken steps in that direction by automating payroll transactions via modem and by using CD-ROMs to cut down the printing costs. Why don't we who are "Always Out Front" do the same? Would it not be less expensive to provide CD-ROM versions of our Area Studies Handbooks and other Army publications to units rather than cumbersome books?

Should the MI Corps implement access to electronic communications, say via Internet, we would be able to send electronic messages to numerous individuals simultaneously; access huge information data bases; and tap academics and other experts for valuable information and assessments. Not only would such a system in the long run save us a considerable amount of resources, but it would also greatly increase the acquisition and dissemination of information. It

would provide us with a greatly increased OSINT capability, which would bridge the time gap left by classified intelligence.

I look forward to Captain Conti's future articles on automation and hope those who are in a position to implement his suggestions do so. As the Tofflers state: "We are entering not the geoeconomic era but the geo-information era." As intelligence professionals, we should strive to ride the wave of the future; not be drowned by it.

SGT Elliot A. Jardines, USAR
Fairfield, CT

To the Editor:

I am responding to a statement made by Mr. Homer T. Hodge in his article, "Korea, A Time for Vigilance" (January-March 1994). He states: "Deployment of U.S. Army Forces in 'harm's way' serves as a trip wire... (that) will trigger a rapid and overwhelming military response from the U.S."

Mr. Hodge's statement shows that he is too far removed and unconcerned with the soldier stationed in Korea. I was in the Republic of Korea (ROK) for a year, assigned to the Aviation Brigade, 2d Infantry Division. Most soldiers in Korea do not consider themselves as a "trip wire" but rather as a "speed bump" for U.S.-Korean policy. We fully expect to die-in-place before the "overwhelming military response" arrives. We feel that our country has little concern about our survival.

I went on a tour of the DMZ. The most vivid recollection I have is that every place was named for an American soldier killed in Korea since 1953. North Korea threatens us with the world's fourth largest military; surface to surface missiles; over 100,000 Special Operation Forces; hardened artillery sites near the DMZ that can range all of 2d Infantry Division; and a substantial arsenal of biological and chemical weapons.

Technically, war still exists between North Korea and the United States. Only a cease-fire was signed in 1953. Yet, our government considers Korea a vacation spot and not a war zone.

The U.S. policy in Korea should include the protection of our service members stationed there. We should increase Patriot missile deployments; reinforce combat forces with a credible offensive deterrent; and issue a clearly defined U.S. military response should North Korea attack first.

If United States and Korean public opinion and political considerations cannot support such actions necessary to protect the lives of our military men and women in the ROK, then we should withdraw our ground forces from Korea. No level of analysis of our foreign policy should ever consider United States military personnel as cannon fodder.

SFC Henry G. Johnson
Fort Huachuca, AZ

To the Editor:

I find myself compelled to correct (or more generously, update) my own article, "Seeing the Light: a Graphic Technique" (April-June 1994).

As that article was going into print, I discovered a military software program which produces light data in graphic form. NITELITE (version 1.0 for Windows) was developed in October 1993 by the U. S. Air Force Environmental Technical Applications Center (USAFETAC) at Scott Air Force Base. It graphically displays solar, lunar, and nautical twilight event times, as well as percent illumination. Operators input latitude, longitude and inclusive dates. Results are generally accurate within two minutes.

System requirements are an IBM or compatible 286 or better computer with at least 640K RAM, Windows 3.1 or newer, EGA or better graphics, Windows-supported printer for hard copies, and 770K of hard disk space. It cannot run from a floppy.

To order copies, call the Air Weather Service Technical Library at DSN 576-5023, or Commercial 618-256-5023, or write USAFETAC/DOL, 859 Buchanan Street, Scott AFB, IL 62225-5116.

MAJ Collin A. Agee
Fayetteville, NC

PROFESSIONAL READER

Sampan Sailor A Navy Man's Adventure in WWII China by Clayton Mishler (Brassey's [US], A McMillan Publishing Company, New York, 1993) 215 pages, 1994, \$22.

Clayton Mishler pens an absolutely delightful narrative about his exploits as a young US Navy enlisted man assigned with the Sino-American Cooperative Organization in China during 1945.

Mr. Mishler presents a very interesting tale of a little publicized military effort in an exotic setting, during one of the most turbulent periods of human existence.

Neither historical nor military, the narrative chronicles day-to-day activities that frequently have nothing to do with the war or history. The reader never really gets the knack of when or where some of Mr. Mishler's antidotes will fall, or why. Mr. Mishler simply tells his story and, like life, some of it fits a grander theme and some simply doesn't. **Sampan Sailor** can be enjoyed by the military reader, the historian, the armchair traveller, or simply someone looking for a good yarn.

MW4 Richard E. Cameron
Sierra Vista, AZ

Holy War, Unholy Victory: Eyewitness to the CIA's Secret War in Afghanistan by Kurt Lohbeck (Washington, D.C.: Regnery Gateway, 1993) 306 pages, \$24.

This impressive work details the war for a nine-year period, but is not as informative a guide to CIA activities as the title implies. The book is clearly a journalistic memoir of the savage but sometimes comical last battle of the Cold War.

Lohbeck focuses on the rebels, with secondary consideration of CIA and Pakistan's Inter-Service Intelligence Agency (ISI) activities. Lohbeck's book offers a glimpse of CIA activities in Afghanistan and Pakistan, but this is secondary to the activities of ISI. For that reason, the book is a resource for the intelligence scholar, as there is very little open source material available on the ISI.

Lohbeck also describes some of his domestic involvement in the war. In 1985, Jonathan Pollard of the Naval Intelligence Service befriended Lohbeck and gave him classified documents on Afghanistan. Lohbeck, shocked, read and returned them with a polite rebuff. Pollard queried Lohbeck about selling classified documents to the Pakistanis. Lohbeck declined to help and was later questioned by the FBI about his relationship with Pollard. After Pollard's arrest, he attempted to implicate Lohbeck in the spy ring. The effort failed, and Lohbeck returned to Afghanistan.

That same year, Lohbeck attended a social banquet and discovered that CIA director William Casey had reserved the

seat next to him. Casey questioned Lohbeck about the situation in Afghanistan. Lohbeck believes this conversation convinced Casey to provide Stinger missiles to the rebels.

A point of interest is Lohbeck's argument that CIA personnel in Pakistan were notoriously ignorant of the culture and politics of the Afghans. When Lohbeck complained that the CIA was providing sophisticated weapons to fanatical anti-Western groups, the CIA countered with the argument that "fanatics fight better." True, but who will they be fighting tomorrow? As we later discover after the World Trade Center bombing, the terrorists had received supplemental aid from CIA resources in Pakistan and Afghanistan.

Those who believe the CIA stopped the practice of hiring journalists as spies may find it interesting that Lohbeck discovered French journalist Dominique Vergos was working for the CIA when he was murdered at his home in Pakistan in 1989. Vergos' daughter later told Lohbeck that he worked for "the Americans for a long time."

This is an important book for two reasons: one, there are few books on Afghanistan that even mention the CIA, and second, Lohbeck's first-hand accounts help bring the war into perspective.

Wendell L. Minnick
Terre Haute, Indiana

The Art of War in the Western World by Archer Jones (Champaign, IL: University of Illinois Press, 1987) 740 pages, \$34.95

War has been characteristic of society since the dawn of history. Few authors are interested in writing a general history of war; most concentrate on just one war. Archer Jones, a renowned teacher of military history, has given us a unique view of war in **The Art of War in the Western World**.

This broadscooped work is divided into 12 chapters, and covers 2,500 years. The author begins with a commentary about ancient warfare. He writes: "The Greeks...present a good starting point because operational methods much like those they developed long dominated the Mediterranean basin. The Greeks also lend themselves well to introducing the art of war because their military system evolved from the simple to the complex."

The focus is narrow. "Its purpose is to trace and explain, at an introductory and somewhat advanced level, the changes in certain operational variables over most of the span of western warfare for which we have a record....One of the implicit themes of this book is that military factors suffice to explain most military events." The reader could make a case for a different view. Specifically, some may argue that military events can be explained by a host of different fac-

tors, including politics.

This book has value for a number of reasons. It provides a comprehensive outline of war in the western world. Additionally, it calls attention to the influence of military strategies and tactics upon the outcome of a war.

Jones concludes his work with a chapter titled "Continuity and Change." He notes that in spite of the development of new and sophisticated weaponry, tactics and strategies have basically remained the same.

William H. Kelley, Ph.D.
Auburn University, AL

Banning Chemical Weapons by Hugh D. Crone (New York: Cambridge University Press, 1992) 122 pages, \$40.

Hugh Crone, the senior research scientist for the Materials Research Laboratory in Melbourne, Australia, wrote this book to give non-scientists an understanding of the technical issues concerning chemical weapons. He is tentatively optimistic about the possibility of a worldwide ban on chemical warfare.

Well written and easy to read, Crone's book pulls the reader into the science behind the decisions made about chemical weapons. He points out that target specificity is greater in chemical warfare, compared to conventional warfare. (For example, with chemical weapons, it is possible to kill all the humans in an area without harming the plant life or machinery.)

The author begins with a brief history of chemical warfare and discusses the human body as a target. The vulnerabilities and defensive capabilities of the body explain why some chemicals, such as mustard and nerve agents, are preferred over others.

Crone makes a strong argument that a prerequisite for chemical weapons is a delivery system. Here is the reason. There are many peaceful uses of a wide variety of chemicals in industry; however, a delivery system indicates a clear, definitive intent to use chemicals in war.

A brief history of chemical warfare reveals that civilians suffer more than soldiers do. Civilians do not have the equipment, training, or discipline to defend themselves against chemical war.



Military Intelligence

fare. Efforts are underway to establish a chemical weapons convention. The author explains five key problems blocking any international chemical accord.

- How are chemical weapons defined?

- How can chemical weapons be disposed of without harming the environment?

- How does an international inspection team gain access to a nation?

- How can the movement of chemicals between nations be controlled?

- How can it be ascertained that chemical weapons were used in a war?

The technology to answer all these questions exists; the difficult part is actually agreeing on the punishment for violators.

This short book is a thorough review of chemical warfare. Because it is concise, it can easily fit into a tightly packed professional reading program. The increased threat of chemical warfare should make Crone's work required reading for all soldiers.

Keith Everett

Tucson, AZ

Riding the Tiger: The Middle East Challenge After the Cold War edited by Phebe Marr and William Lewis (Westview Press, Boulder, CO.) 253 pages, \$18.

Internationally, the demise of the Soviet Union changed everything. We have been observing its effects for years now. An understanding of how things have changed, and what those changes might mean is not always obvious nor accessible. This book makes understanding the Middle East a little easier.

Riding the Tiger: The Middle East Challenge After the Cold War is jointly edited by Phebe Marr, a senior fellow at the National Defense University, and William Lewis, director of security policy studies at George Washington University.

The book's focus is not historical. Rather, it describes the present situation in the region and projects developments that will affect US policy through to the turn of the century. While the Middle East's unique problems clearly originate in the conditions and nature of the area itself, Soviet involvement has always had an inflammatory effect. Again and again, the book's various contributors highlight how profoundly the Soviet demise will affect the direction of Middle East issues may take. *Tiger* covers nuclear/chemical weapons proliferation; the impending Mid-East water crisis; the frightening demographic prospects for the region; Islam's potential impact on former Soviet Muslim republics; the future continuing importance of Mid-Eastern oil; the prognosis for the conventional arms race; the outlook for Arab-Israeli relations in the '90s; and endemic regional conflicts.

Anyone familiar with the Middle East will find only a few new insights in this book. Its true value lies in its scope and discussions of the most important current issues of the region. Some of it is a bit dated—it was compiled before the dramatic August 1993 Israeli-Palestinian breakthrough, and some of the analysis has been overcome by events. This is minor and the book's value as a collec-

tion of significant Middle Eastern issues far outweighs it.

If the book has a flaw, it is the unevenness of the writing. Several contributors, who lapse into some moderately dense academic prose, are balanced by others whose style is readable and easy to follow.

Riding the Tiger is a valuable tool for understanding the problems of a region that has always been complex and notoriously difficult to sort out.

MAJ Paul H. Smith

Laurel, MD

The Seven Military Classics of Ancient China by Ralph D. Sawyer (Boulder, CO: Westview Press) \$29.95

By the second century B.C., China had endured a thousand years of almost ceaseless conflict. Most of the military writings did not survive the ravages of time and war. **The Seven Military Classics of Ancient China** is a translation of a document which compiled seven Chinese military works believed to have been written between 500 B.C. and A.D. 700 (some of which were lost until 1970).

While almost 340 pages represent Ralph and Mei-chun Sawyer's 25-year effort to merely translate these books, the gold mine lies in the 205 pages of historical background, appendixes, notes, bibliography, glossary and indexes. These contain contextual information and identify figures and terms for those unfamiliar with Chinese history and writings. For the student of Asia, these notes delve into the intricacies of translation, provide alternative readings, expand on the author's judgment calls, and discuss tentative assertions not fully resolved by scholars of China.

Of the seven works, which include: *Tai Kung's Six Secret Teachings*, *The Methods of the Su-ma*; Sun-tzu's *Art of War*; Wu-tzu, Wei Liao-tzu, *Three Strategies of Huang Shih-kung*; and *Questions and Replies Between Tang Tai-tung and Li Wei-kung*, most were not previously translated and published in the West. Sun-tzu and Wu-tzu are the exceptions.

Far from being forgotten and disregarded, these writings worked for Japan's Yamamoto, China's Mao Tse-tung, and Vietnam's Giap. Today they are being studied by executives from Taiwan, Korea, and Japan where the principles are applied to advancement in business and social life. This work should be of interest to the military and business professional, as well as those interested in Asian studies. The Sawyers take what could be a dry narrative and package it in a smooth, well-delivered, readable style. At \$29.95, this book should be on your Something-I'd-Really-Like-to-Get gift list.

MW4 Richard E. Cameron

Fort Huachuca, AZ

Free at Last?: U.S. Policy Toward Africa and the End of the Cold War, by Michael Clough, (New York, Council on Foreign Relations Press) 158 pages, \$14.95.

Michael Clough could have finished writ-

ing **Free at Last** two years later than he actually did. Although written as a discussion of American disengagement from Africa at the end of the Cold War, Clough's treatise gives the MI professional a clear perspective on the difficulties surrounding the recent US involvement in Somalia. Published in May of 1992, the book predates our military involvement there by six months, yet its discussion of the difficulties we faced is as pertinent as if it had been published today. US experiences in Somalia in the past year and a half only serve to validate Clough's conclusions about US African policy. Rather than outdated them, it magnifies the importance of the recommendations he makes about US policy towards Africa.

Free at Last is a detailed discussion of US post-Cold War relations with the many countries that make up sub-Saharan Africa. With the end of the Cold War, and the resulting decline of Africa's strategic importance, Michael Clough attempts to examine America's new relationship with that great continent. Clough supports this discussion with care and detail, and is very convincing in his conclusions. He cites a blizzard of government papers and figures, articles, diagrams, and speeches, with attendant footnotes. He backs up each statement with historical example, and takes great care to define the specific terms and vocabulary he uses. The reader feels that the author's argument is solid and thorough, not supported merely by his authority as an experienced policy analyst.

Clough concludes that the ties that link the US and Africa are now, surprisingly, quite marginal. He compares US strategic interests on the continent as they were during the Cold War and as they exist now, and shows that while Africa may previously have had some strategic importance to the US, this is no longer the case. Involvement in African politics may once have been important to the strategic interests of the US, if for no other reason than to counter Soviet involvement there, but is now unnecessary from a geopolitical standpoint. With the fall of the Soviet Union, and the subsequent collapse of Soviet expansionism, the tit-for-tat policies once adopted by the US have become anachronistic.

Clough also argues that our economic ties to Africa are more tenuous than popular wisdom would suggest. While active trade with African nations certainly exists, he demonstrates that it is



comparatively minor, just a small fraction of our trade with South America, Europe, or Asia. He shows that even strategic mineral reserves, once cited as a major reason for engagement in African affairs, have lost their importance with the end of the Cold War.

Clough concludes that the US's only credible interest in sub-Saharan Africa is humanitarian. This conclusion was borne out by our recent experience in Somalia, where images of starving babies prompted President Bush to send troops to ensure delivery of relief supplies. However, Clough shows that without concrete strategic, political, or economic interests, US foreign policy there will be vacillating and fuzzy.

For this reason, and with particular relevance to the recent Somalia adventure, Clough argues against government involvement in Africa for charitable causes. While he certainly advocates non-government humanitarian relief, he says, "It ... would be a mistake to pretend that the United States can lead a crusade to save Africa from poverty, political repression, and civil war. Attempting to do so would require a stock of ideas, resources, and, most of all, a degree of commitment that Washington does not possess." As is apparent from our recent operations, the problems of poverty, hunger, and war in Africa are not susceptible to any quick solution. Clough recognizes that only a continuing commitment will produce lasting resolution to the problems that plague Africa, and advocates strengthening civil, non-governmental ties between African nations and the United States.

Free at Last is well worth reading. Besides providing a good review of past US involvement in Africa, it is relevant to the recent conflict in Somalia, and to any

future African involvements we may have.

2LT Kevin Cranmer
Baumholder, Germany

Defense and the Media in Time of Limited War edited by Peter R. Young (Printed in Great Britain and available in the United States by Frank Cass, C/O International-Specialized Book Services, Inc., 5602 NE Hassalo Street, Portland, OR 97213. 1992) 281 pages. \$35.

Defense and the Media in Time of Limited War is a compilation of papers delivered at the first International Conference on the topic of Defense and the Media in Time of Limited Conflict. The conference took place in Brisbane, Australia in April 1991. Over 160 delegates attended, from the United States, Great Britain, Zambia, Papua New Guinea, Brunei, New Zealand, France, Indonesia, and Australia.

The book contains three sections. The first portion sets out to define the problem of defense and media interaction. The second section offers case studies of the defense and media relationship in the Vietnam Conflict, Northern Ireland, the Falklands, Grenada, and the Gulf War. The final section covers the Australian experience. (Note that the Queensland Institute of Technology and the Australian Department of Defense funded the conference, and as a result, the book slants toward the Australian experience as well as Australian applications.)

The book defines limited conflict as "the use of military force by a state to further or protect its national policy objectives in circumstances where the

territorial integrity of the homeland is not directly under threat." For example, the Iran and Iraq War does not fall into the realm of this definition, while the United States-backed Coalition liberation of Kuwait can be defined as a limited conflict. The book only discusses the defense and media relationship in such limited conflict.

The book outlines the formulation of the policies and decisions that governed the role and spectrum of the press in recent limited conflicts. The sphere of participation ranged from essentially unlimited freedom of the press during the Vietnam conflict to the resulting virtual press blackout of the Grenada invasion. Discussed is the need for public support for victory, and the "Right to Know" of the public versus the need to maintain operational security.

The case study of the media and defense role in the Gulf War, written by retired Colonel David H. Hackworth, offers little insight, but instead reads like a wacky piece of Hunter S. Thompson journalism.

I received this book shortly after the press exploits of the Somalia beach landings and as a result ventured into this book with a very hostile perception of the media. After reading the book, and again due to the balanced coverage of roles provided by this publication, I understand the necessity for media participation in conflict, as well as the concern of national defense. I recommend this book as a welcome addition to any professional library, and consider it necessary reading for anyone involved in Public Affairs or in a position with any type of media and defense interaction.

WO1 Mark Kevin Wykoff
Fort Richardson, Alaska

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15th MI Battalion (AE) "Night Hawks"

The merging of the two silver suns into a single black oval represents the battalion's consolidation of MI skills and assets into a single unit. The positioning of the symbol over the sphinx shows that these assets are airborne in nature. The symbol also represents the battalion's day and night all-weather capabilities. Mysterious and thoughtful, the Sphinx is a symbol of MI and the winged sphinx denotes the aviation configuration. Fire and flames represent the burning zeal and passion with which the battalion accomplishes its mission. This is exemplified in our motto, Vigilantia Ad Finem.—Vigilant to the End.

The 15th MI Battalion was activated 25 February 1966, at Fort Bragg, NC.

As one of only four Aerial Exploitation Battalions in the Army, the unit is a highly specialized organization with a long history of aerial intelligence collection.

The current Alpha Company has roots in the 131st MI Company and the 131st Aviation Company. Both units served proudly in Vietnam and collected imagery intelligence using photographic, infrared, and side-looking airborne radar imaging systems mounted in the OV-1D Mohawk aircraft.

The current Bravo Company was activated in Vietnam as the 156th Aviation Company. It employed signals intelligence collection systems mounted in the RU-8 Seminole aircraft. Bravo Company left Vietnam as one of the most highly decorated electronic warfare units in the U.S. Army.

After several organizational changes during the 1970s, the battalion was reorganized under the 504th MI Brigade and reached its current configuration 16 October 1985.

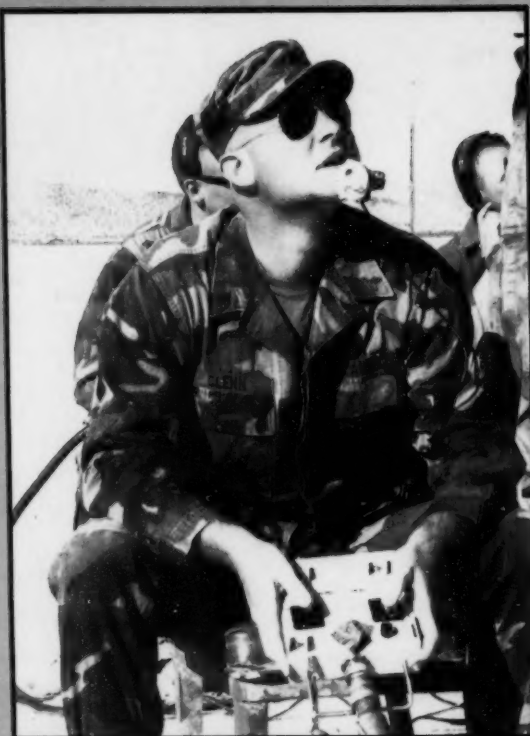
The 15th MI Battalion was one of the first Fort Hood, TX, units alerted to deploy for Operation Desert Shield. Attached to the 525th MI Brigade, it was the primary XVIII Airborne Corps intelligence collection asset during Operations Desert Shield and Desert Storm. The unit successfully completed 929 aerial intelligence collection missions and achieved a mission completion rate of 99.1 percent. Unit pilots flew more than 10,500 hours; the highest operational tempo of any battalion-size aviation element in theater. The battalion redeployed to Fort Hood in April 1991 after more than 200 days in Southwest Asia.

The 15th MI Battalion is the eyes and ears of the 504th MI Brigade. It stands ready to provide deep-look imagery and signals intelligence to the III Corps commander.

Vigilant to the End

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